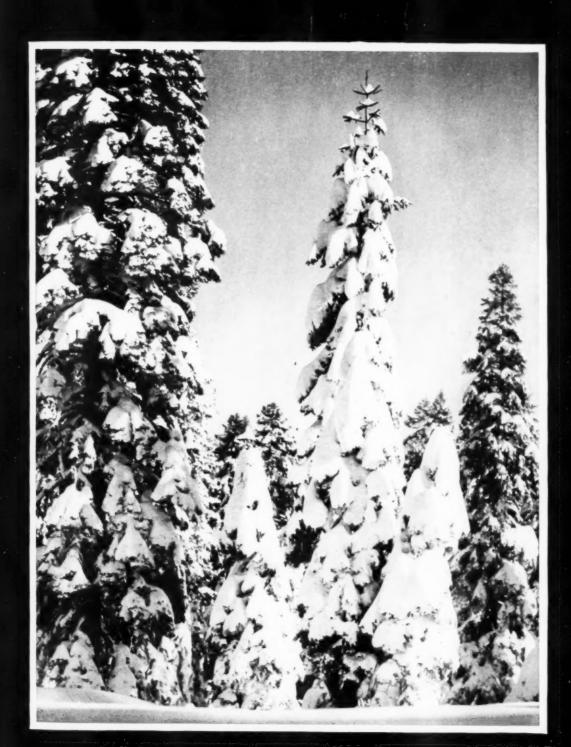
# AMERICAN





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#### AMERICAN FORESTS

EDITOR Ovid Butler

**ASSOCIATE EDITORS** 

Lilian Cromelin Erle Kauffman

Published monthly by

#### THE AMERICAN FORESTRY ASSOCIATION

919 Seventeenth Street Washington, D. C.

The American Forestry Association is a citizens' organization for the advancement of intelligent management and use of the country's forests and related resources of soil, water, wildlife and outdoor recreation.

Its educational activities seek to bring about a better appreciation and handling of these resources, whether publicly or privately owned, that they may contribute in the highest degree to the welfare of the nation and its people.

In addition to publication of two magazines - AMERI-CAN FORESTS and CONSER-VATION, both designed to keep before the people of the country important conservation questions and issues, the Association carries on educational projects in various fields including forest fire prevention, reforestation, protection of fish and wildlife, upstream flood control, prevention of soil erosion, preservation of wilderness areas, establishment of national forests and parks, development of forestry by private endeavor, the teaching of conservation in the schools of the country, promotion of research in timber growing and use and expansion of markets for forest products.

The Association is independent. It has no connection with any federal or state governments. It is nonpolitical and non-commercial. All its resources and income are devoted to the advancement of conservation. It has been so operated since its founding in 1875. All citizens interested in forestry and conservation are eligible for membership.

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Member A. B. C.

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### **BIG TREES**

The American Forestry Association is sponsoring a national hunt for the discovery and preservation of the largest specimens of the different species of typical American trees. Locate, measure and nominate your candidate in this competition. ACT NOW to make known and save the largest specimens of America's trees. For further details, see page 412 of the September issue or send for special announcement of this Big Tree hunt. Mail your nominations with records and pictures to The American Forestry Association, 919 17th Street, Northwest, Washington, D. C.



### Can You Beat This Giant Red Cedar of the Olympics?

THIS veteran, nominated by F. W. Mathias, of Hoquiam, Washington, is a Western Red Cedar 62 feet 8 inches in circumference breast high—one of those great trees which

are the glory of the Olympics.

Located near the shores of Lake Quinault and within the Olympic National Park, it stands in a heavy growth of western hemlock about a quarter mile from the North Shore Quinault Highway on a bench about 400 feet above the level of the lake. Surviving fire and storm, it carries its tremendous size for about one hundred feet up, when it becomes a spiked top, due to its many and long struggles with the elements.

Mr. Mathias, of "The Olympians"—a mountaineering club devoted to the exploration, protection and enjoyment of the Olympic mountains, offers this Western Red Cedar as the greatest of its tribe—can you better it?



Hoquiam Chamber of Commerce

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Of "Caterpillar's" many contributions to the nation's progress, none perhaps is more valuable than the new scope it has helped give forestry. For this modern form of power is lowering the cost and lightening the effort of numerous conservation projects: enabling roads, dams, trails and fire-breaks to be built and maintained on a greater scale than ever before in our history. Truly, "Caterpillar" Diesel—track-type tractor, motor grader, engine and electric set — is the strong right arm of the Forest Service!

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In Paradise Valley on Mount Rainier

Photograph by Orville Borgersen

### My Gift



Where trees lift shaggy heads
On high, wild hills,
Shaking their manes in the drifting snow,
Meeting the blasts and the icy chills;
There I would stand on Christmas Day,
Crowning each shaggy uplifted head
With a holly wreath, its berries red
Mingling with diamonds glittering brght
In the shaggy manes of the trees on the hills,
Braving the blasts and the icy chills.

-Alice Churchill Chaphe.



AFTER months of speculation on who would be named Chief Forester of the United States Forest Service, a position made vacant a year ago by the death of F. A. Silcox, it now turns out that there is no vacancy. An official appointment of CHIEF FORESTER has not been made, yet there is no vacancy! Paradoxical as it sounds, that is the information contained in a letter signed by Claude R. Wickard, Secretary of Agriculture, acknowledging receipt of a resolution recently

passed by the Central States Section of the Society of American Foresters urging the Department to fill the supposedly vacant position of Chief Forester. Mr. Wickard's letter to the Section reads as follows:

"This will acknowledge your letter of October 18 and the resolution of the Central States Section of the Society of American Foresters urging the appointment of a Chief Forester of the United States Forest Service.

"When the vacancy occurred Mr. Earle H. Clapp was appointed Acting Chief Forester. During his tenure of that office the Department has been very well satisfied with his administration of the Forest Service and does not consider that there is a vacancy for the position at this time. Should any circumstances develop to change that situation we shall, of course, give consideration to your resolution."

On November 5, Californians voted down the proposed constitutional amendment to empower their state legislature to open Redwood and other state parks to exploitation for oil and gas. The amendment went down under a five to one vote. "From the moment the first returns began to come in," comments the Oakland Tribune, "there was no doubt as to the opinion of the people of California when it came to a proposal that would allow disposal of our park lands for exploitation by oil and gas companies. The voters turned down that idea so emphatically that it may be hoped it will never be revived. The state parks are to be maintained for the people and our obligations to those who gave money to buy park lands, matching the state appropriations, are to be kept."

The staggering total of 213,000 forest fires occurred in the United States last year. This is more than four times the fifty thousand fires conservationists used to talk and write about. Over 31,500,000 acres were burned over, eighty-eight per cent of them because they had no organized protection by state and federal agencies. Government is just too poor or needs its money for other things! Total damage \$40,000,000—a sum several times greater than the cost of lumber to house our enlarged army.

Of the total number of fires on protected areas, smokers caused twenty-five per cent, incendiaries twenty-three per cent, debris burners fourteen per cent. Next came a culprit outside human control—lightning—with nine per cent, and close upon it came campers.

Best story of the season of unclassifiable causes of forest fires comes from Nevada. A sheep herder in the Humboldt National Forest having to move camp, packed his burros and sent them ahead down the trail while he rounded up some of his sheep. When he caught up with his pack train he was mystified to find it the center of a big smoke. Investigation revealed that one of the burros, with characteristic curiosity, had poked its nose into the pack of the burro ahead and had pulled out a box of matches which it proceeded to step on. Result, an eighty-acre fire and a sad but wiser sheep herder.

Ond Suster



#### **GUARDING THE TREES OF PALESTINE**

Women shared this twenty four hour armed guard duty with men to prevent trees being uprooted or burned by Arab rioters, following the Arab riots of 1936 when 50,000 young saplings planted by Jewish settlers were destroyed. Now in Palestine the olive, the palm, the cedar and the eucalyptus rise again, after centuries of neglect — not for beauty's sake but because every tree planted there means an extra foot of soil reclaimed for the wandering peoples of Israel. So far over two and a half million trees have been planted in this great reclamation program in the Holy Land



### Trees Return to the Holy Land

#### By JULIETTA K. ARTHUR

Photographs through the courtesy of the Hadassah Organization



THE children's village of Meier Shfeyah, a rural cooperative settlement near Haifa, in Palestine, was preparing a welcome for a group of thirty young refugees from

terror-stricken European communities. This was in 1939, and we were fortunate enough to be visitors to the village at the time. As they gathered around a flower-strewn table set in the shade of tall trees, the laughter and song of the youthful Palestinians, strong and tanned by the sun, were in deep contrast to the pale, unsmiling faces of the newcomers, all of whom had known hunger and chaos.

At the conclusion of the ceremony, the chairman, an earnest, brown-eyed boy, arose from his seat at the head of the table. With a glance which took in all the hundred and sixty children, hosts and guests, he said in the accents of that Biblical Hebrew which henceforth would be the new mother-tongue of these world-wanderers:

"You have come here to build and to be rebuilt; on each of us lies the duty to fulfill the demands of our

country and the need of the hour. . . . Your first work in our land, the symbol of your attachment, will be the planting of trees in desert earth so that it may blossom."

With this, the young chairman gave into the hands of each childish immigrant a spade and a cypress sapling. They went, singing, outside, and the new immigrants, now smiling, planted their first trees along a road. As they worked they chanted softly those magnificent words of the modern Hebrew poet, Bialik:

"Let the trees brave the mountain breezes, Let them rustle in the valley below;

Fringing the road, they give shade from the heat Of the day to the wanderer,

And shelter to the weary laborer."

That scene is being repeated all over Palestine, whereever new settlers and old gather. Trees for the land in Palestine are not a mere hobby nor is shade an amenity which can be dispensed with at will. Under the skies of the Holy Land, where the sun reigns supreme eight



The Balfour Forest—typical of the named forests in this great reclamation plan. This forest was named in honor of the Earl of Balfour and the mandate which bears his name—which brought modern Palestine under British protection after the first World War



Swamps such as this have been turned into fertile lands, and on the edges of the marshes the quick-growing eucalyptus has been planted in such profusion that the Arabs call it the "Jewish tree"

months of the year, the task of replanting and restoring the landscape to its former fertility and beauty is of immediate importance. Trees in Palestine are a daily necessity, a question of national health. For a generation the planting of trees has literally been the first act of the Jewish pioneer on returning to his homeland. There is an Eddie Cantor forest in Palestine, a memorial grove honoring Ossip Gabrilowitsch, America's famous orchestra conductor, and a wood which bears the august name of that great jurist, Supreme Court Justice Louis D. Brandeis.

Nor would the great Father of his Country, who so painstakingly recorded in his diary his love of trees, take it amiss that on his two hundredth anniversary in 1932, a George Washington forest of thirteen thousand trees was dedicated high on the hills of Nazareth.

Look a little farther in the Holy Land and you will find many such forests and groves, to the number of nearly 3,000,000 trees, with pine, cypress and eucalyptus predominating — all planted within the memory of living man. These woods bear the names of such illustrious and historic personalities as King George V, Lord Balfour, President Thomas Masaryk of Czechoslovakia, Professor Albert Einstein, and King Peter of Jugoslavia.

In a country hardly larger than New Jersey, this grandiloquence of baptism may seem a little ludicrous, but to the Jewish settlers it represents a deadly

earnest effort to interest the entire world in an afforestation program designed to reclaim a country which for over four hundred years has been denuded of forest growth.

Sixty years ago when the first Jewish pioneers returned to the land of their ancestors, not to lament its



This is Degania, the oldest Jewish colony in Palestine and shows the luxuriant growth of trees and shrubs along the Jordan River. The colony lies south of Tiberias and all the trees were planted by Jews in an area which had been denuded of forest growth under Turkish rule

destruction but to rehabilitate it, a bitter surprise faced them. They found a country in which the Biblical words, "A land of wheat and barley and vine, of fig and pomegranate, a land of olive oil and honey," had become a mockery. Centuries of neglect had caused eneroachment of sand dunes upon priceless soil; hills denuded of once heavy growths had created swamps and floods, and in their wake came pestilence and debility.

In the days of the Turks anyone might cut down trees when and where he liked. The wood of the forest was the sole fuel for the Arab kettle, as it was for the railway engines which made their way slowly across the desolate country. A tattered remnant of bushes more or less consumed by goats was in many areas unfortunately all that remained of the once majestic Mediterranean oak; the cedars of Lebanon were but legend.

Those first Jewish settlers paid heavily for their temerity in settling in the malaria swamp lands. Whole colonies were decimated until they began the draining of swamps and planting of the quickgrowing eucalyptus tree on the edges of marshes in such profusion that the Arabs still call it "the Jewish tree."

Finally, in 1919, with the official pronouncement of Palestine as a "Jewish homeland," there began on an international scale an afforestation program which one of our own government conservation officials has declared "made the whole of Palestine a reforesting laboratory." Immediately on taking over the Palestine



The beginnings of an Aleppo Pine forest in Palestine, two and a half years after planting. The Jerusalem pine holds first place in the reforestation work, the pruned lower branches being used for firewood and vineprops

Mandate, after the first World War, the British Government assumed an active part in the program begun by Jewish settlers about forty years before. Today about 35,000 dunams — the old Turkish land measure, equivalent to about a fourth of an acre, is still in use — are



Jewish labor has changed the face of Palestine's world,—for four hundred years denuded of forest growth. The young forest in the background is on land owned by Jewish settlers, whereas that in the foreground belongs to the Arabs and is stripped bare of the trees once luxuriant in the Holy Land

wooded slopes. Of these nine thousand acres, roughly one-third has been planted by the government, the remainder by individual Jews and Jewish organizations.

The Tree Fund was one of the first major activities of Zionism, established as an integral part of the Jewish National Fund, the purpose of which is to acquire land in Palestine and hold it in trust as national and inalienable property of the whole Jewish people. When acquired, reclaimed and made fit to live on, the land is given in lease to settlers without means of their own, who pay to the Jewish nation's landlord, after the first five years, a nominal ground rent of two per cent of the land's value. And in every purchase of new land for settlement there is always included an area fit only for woodland.

Before 1919 the total number of trees planted on Jewish-owned land amounted to only 14,693; in the space of the last twelve months 285,132 trees have been planted. But the peak of the campaign came directly after the vandalistic acts of Arab terrorists who uprooted about 50,000 trees during the riots of 1936. "For every tree that is uprooted, two shall be planted," the Jewish settlers grimly said, and made good their word by enlisting the support of co-religionists throughout the world, resulting in the unprecedented number of 441,940 saplings bought and planted during the following year.

In all this activity Americans have not been slow to take a leading part. At present there are 110,000 trees representing gifts in honor of outstanding American personalities. At En Ha-Shophet, for example, the settlement of American pioneers in the hills of Ephraim in Samaria, a colony created and named in honor of Justice Brandeis, a forest is being planted in joint honor of Federal Judge Julian W. Mack and Dr. Stephen S. Wise, well-known Jewish rabbi. On Mount Scopus, adjacent to the Hebrew University, rises the flourishing Henrietta Szold grove, named for the Baltimore woman who founded the Hadassah Organization, the women's branch of the Zionist movement.

"Only God can make a tree," say the pamphlets which are scattered from one end of the world to another, "but everybody can plant one!" Every lover of the ancient homeland is exhorted to remember that a tree can be planted to honor a loved one, a birthday, an anniversary, a happy or a solemn occasion. Organizations are urged to secure gifts of \$1.50 for the planting of a young pine or cypress, \$15 for ten of them, a garden of a hundred for \$150, a grove numbering one thousand for \$1500 and a whole wood of ten thousand trees for \$15,000, all of them rooted in national soil and permanently looked after with care by the Forestry Department of the Jewish National Fund.

To stimulate world-wide interest attractive "Tree Planters' Certificates" recording the number contributed, the name of the donor and the occasion, are issued, and in the Jerusalem office of the Fund a register is preserved of every garden and grove planted, together with its location.

To the slogan "Let the trees of Palestine keep green the memory of the important event in your life or in the life of those whom you wish to honor," the whole of world Jewry has responded. In honor of the reign of George V, British Jewry linked his name with a Jubilee Forest on a hill-top opposite Nahalal, eventually to consist of a million trees. One of the treasures there and the first tree to be planted, is an oriental cypress taken from the Royal Gardens in Windsor, England.

Before the Hitler regime, German Jewry had contributed 124,000 trees to the land which many of them, as refugees, are now seeing for the first time. Poland had given 122,000, what was formerly Austria, 111,000, and from our own continent, in addition to the 110,000 from the United States, there came a gift of 48,000 saplings from funds donated by the small Jewish community in Brazil.

To those accustomed to think of Jews as urban people, it may come as a surprise that from time immemorial Chamisho Osor B'shevat, Jewish Arbor Day, commonly known as "The New Year of the Trees," has been one of quite unique festivals on the Jewish annual calendar. In ancient days the birth of a child was celebrated by the planting of a tree, a cedar for a boy, a palm for a girl. Throughout eenturies of exile the remembrance and affection of the Jew for Palestine's trees and fruits have reflected themselves in the decorative art of the Jewish people.

Excavations throughout what was once the ancient Roman empire uncovered Jewish synagogues carrying emblems of the grape, palm tree, olive, pomegranate and the vine, the physical appearance or actual form of which was unknown to the local inhabitants. King Agrippa made the palm the emblem of the Palestine of his day, and on coins struck by Vespasian to commemorate the Roman conquest of that land, captive Judaea is pictured sitting by the side of a palm tree. Wherever they were, they remembered the "Jewish Arbor Day."

Today in Palestine, the "New Year of the Trees," which annually falls about mid-February, is the occasion of tree-planting festivals throughout the country. Nowhere is there a more picturesque Arbor Day than that held in Tel Aviv, itself a city literally risen from the sand dunes. The year after the Arab disturbances had ruthlessly cut, burned and destroyed thousands of trees, the planting ceremony was particularly impressive.

As we stood in a green field, with the verdant hillocks and gardens of Ramat Gan and the Boruchov Quarter at our backs, an opening bugle-call announced the march of the planters, a thousand sturdy sixth-grade pupils from the Tel Aviv schools. Each child had a green wreath on his head, and each class carried banners, reading, "The desert shall yet bloom!" or "They cut down sycamores; we shall plant cedars in their stead!"

Following songs and dences typical of the springtime, the children and their audience of thousands stood with bowed heads as a group of the young planters chanted, "See, brothers, what has happened to the plants we so carefully tended. Hear the sigh and wailing of the bruised and scorched forest. Will you not remember these on your day of planting and joy?"

"We shall remember," the children responded in unison. "We shall remember and we shall not rest until we have replanted, until we have created many forests for a joy and blessing to the whole land. We shall remember our covenant with forests and with every growing plant, as well as the covenant of labor and the covenant with our native land!"

Then the planters, armed with spades, hoes and watering cans, marched up to the platform to receive the saplings, singing as they marched, and then struck out, twenty-four abreast, across the field towards Bialik Boulevard for the actual planting on the broad street, which five years ago was nothing but sand and treestumps.

What has happened in Tel Aviv is reproduced in every part of the country. What is done by the Jerusalem pine in stony and chalk soils as a conifer is done by the eucalyptus in marshy plains as a foliage tree. The Jerusalem cypress can strike root in the thinnest possible layer of soil; its wide-branching roots get such a close grip on whatever little humus (Continued on page 576)

### ESCUDILLA

By ALDO LEOPOLD



Always in the distance lay the far, blue mountain-Escudilla

Photograph by Mary B. Sizer

LIFE IN ARIZONA was bounded under foot by grama grass, overhead by sky, and on the horizon by Escudilla.

To the north of the mountain you rode on honey-colored plains. Look up anywhere, any time, and you saw Escudilla.

To the east you rode over a confusion of wooded mesas. Each hollow seemed its own small world, soaked in sun, fragrant with juniper, and cozy with the chatter of pinon jays. But top out on a ridge and you at once became a speck in an immensity. On its edge hung Escudilla.

To the south lay the tangled canyons of Blue River, full of whitetails, wild turkeys, and wilder cattle. When you missed a saucy buck waving his goodbye over the skyline, and looked down your sights to wonder why, you looked at a far blue mountain: Escudilla.

To the west billowed the outliers of the Apache National Forest. We cruised timber there, converting the tall pines, forty by forty, into notebook figures representing hypothetical lumber piles. Panting up a canyon, the cruiser felt a curious incongruity between the remoteness of his notebook symbols and the immediacy of sweaty fingers, locust thorns, deer fly bites, and scolding squirrels. But on the next ridge a cold wind, roaring across a

green sea of pines, blew his doubts away. On the far shore hung Escudilla.

The mountain bounded not only our work and our play, but even our attempts to get a good dinner. On winter evenings we often tried to ambush a mallard on the river flats. The wary flocks circled the rosy west, the steel blue north, and then disappeared into the inky black of Escudilla. If they reappeared on set wings, we had a fat drake for the dutch oven. If they failed to reappear, it was bacon and beans again.

There was, in fact, only one place from which you did not see Escudilla on the skyline; that was the top of Escudilla itself. Up there you could not see the mountain, but you could feel it. The reason was the big bear.

Old Bigfoot was a robber-baron, and Escudilla was his castle. Each spring, when the warm winds had softened the shadows on the snow, the old grizzly crawled out of his hibernation den in the rock slides and, descending the mountain, bashed in the head of a cow. Eating his fill, he climbed back to his crags, and there summered peaceably on marmots, conies, berries, and roots.

I once saw one of his kills. The cow's skull and neck

were pulp, as if she had collided head-on with a fast freight.

No one ever saw the old bear, but in the muddy springs about the base of the cliffs you saw his incredible tracks. Seeing them made the most hard-bitten cowboys aware of bear. Wherever they rode they saw the mountain, and when they saw the mountain they thought of bear. Campfire conversation ran to beef, bailles, and bear. Bigfoot claimed for his own only a cow a year, and a few square miles of useless rocks, but his personality pervaded the county.

Those were the days when progress first came to the cow country. Progress had various emissaries.

One was the first transcontinental automobilist. The cowboys understood this breaker of roads; he talked the same breezy bravado as any breaker of bronchos.

They did not understand (but they listened to and looked at) the pretty lady in black velvet who came to enlighten them, in a Boston accent, about woman suffrage.

They marvelled, too, at the telephone engineer who strung wires on the junipers and brought instantaneous messages from town. An old man asked whether the wire could bring him a side of bacon.

One spring progress sent still another emissary, a government trapper, a sort of St. George in overalls, seeking dragons to slay at government expense. Were there any destructive animals in need of slaying? Yes, there was the big bear.

The trapper packed his mule and headed for Escudilla. In a month he was back, his mule staggering under a heavy hide. There was only one barn in town big enough to dry it on. He had tried traps, poison, and all his usual

to dry it on. He had tried traps, poison, and all his usual wiles to no avail. Then he had erected a set-gun in a defile through which only the bear could pass, and waited. The last grizzly walked into the string and shot himself.

It was June. The pelt was foul, patchy, and worthless. It seemed to us rather an insult to deny the last grizzly the chance to leave a good pelt as a memorial to his race. All he left was a skull in the National Museum, and a quarrel among scientists over the Latin name of the skull.

It was only after we pondered on these things that we began to wonder who wrote the rules for progress.

Since the beginning, time had gnawed at the basaltic hulk of Escudilla, wasting, waiting, and building. Time built three things on the old mountain: a venerable aspect, a community of minor animals and plants, and a grizzly.

The government trapper who took the grizzly knew he had made Escudilla safe for cows. He did not know he had toppled the spire off an edifice abuilding since the morning stars sang together.

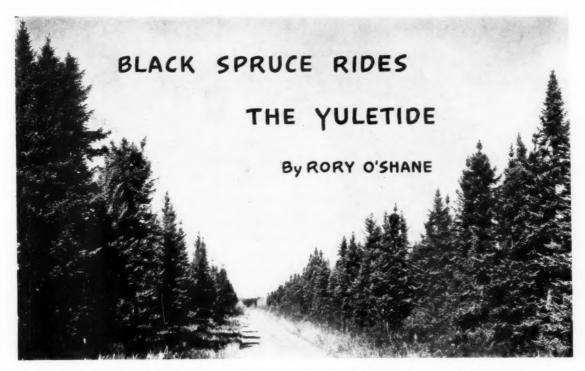
The bureau chief who sent the trapper was a biologist versed in the architecture of evolution, but he did not know that spires might be as important as cows. He did not foresee that within two decades the cow country would become tourist country, and as such have greater need of bears than of beefsteaks.

The Congressmen who voted money to clear the ranges of bears were the sons of pioneers. They acclaimed the superior virtues of the frontiersman, but they strove with might and main to make an end of the frontier.

We forest officers, who acquiesced in the extinguishment of the bear, knew a local rancher who had plowed up a dagger engraved with the name of one of Coronado's captains. We spoke harshly of the Spaniards who, in their zeal for gold and converts, had needlessly extinguished the native Indians. It did not occur to us that we, too, were the captains of an invasion too sure of its own righteousness.

Escudilla still hangs on the horizon, but when you see it you no longer think of bear. It's only a mountain now.





### And Provides Christmas Trees For A Million Dollar Industry In Minnesota



ONCE considered a worthless tree in Minnesota the lowly black spruce has at last come into its own. Today it stands for a million and a half dollar Christmas tree industry in the Gopher State. Last year some two

thousand operators shipped more than two and a half million black spruce to forty-seven other states and to Alaska, Panama, the Orient, and the West Indies.

Strangely enough the factor that renders them unsuitable as pulp wood — their stunted growth — makes them extremely desirable as Christmas trees. Even though stands of spruce have been growing in the peat bogs for generations, the trees rarely attain full size. Trees one hundred and twenty-five years old have been found only fifteen to twenty-five feet in height and two inches in diameter. The rings of ice that lie around the base of

each tree and fail to disappear until mid summer may be the explanation.

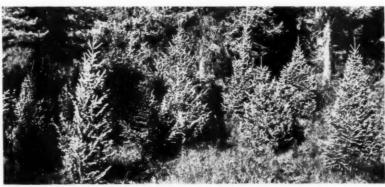
Full growth would have destroyed their Christmas tree value, for as is usually the case, the leaders would have grown faster than the rest of the tree at

the expense of symmetry. The stunted spruce, however, is ideal as a Christmas tree. It is symmetrical, has a dense compact crown, and possesses branches stiff enough to bear the weight of Yuletide decorations. Since it is small, it can be used in houses and apartment dwellings. Best of all, it retains both its foliage and fragrance for a long time after being cut.

The state forestry department is getting its share of this Xmas business. Sales from state-owned lands now exceed half a million trees annually and are increasing by ten to twenty per cent every year. The department's timber appraisers go through entire sites, making approximate estimates of the number of trees and determining their value. Then the sites, in sections of forty acres, are put up for sale at auction in the county seat. Small trees from two to three feet bring one and a half cents, four to six feet are two and a half cents, and

seven to eight foot trees sell for four cents each. By the middle of last September, with the season barely under way, the state had disposed of 566,100 Xmas trees.

Before the advent of the cold storage plant, all Christmas



Its natural, stunted form makes the black spruce the ideal Christmas tree from the forests of the North



Men on foot cut a ten to sixteen-foot swathe through the forests, bundling the trees until the "cats" come to pull them out of the bogs

tree cutting took place a few short weeks before the season. Otherwise the foliage would have turned brown and the tree would have lost its native fragrance. Now most of the big operators start work in September and stop when they have enough trees to fill orders. This has done much to alleviate badly balanced markets. Uncertainty as to production, supply, and demand made Christmas tree cutting a highly speculative enterprise.

Now with a definite knowledge of supply on hand and

with plenty of available storage space, operators are able to breathe more freely. Though competition throughout the industry is keen, and Minnesota operators vie among themselves, as well as with out-ofstate competitors, there are enough consumers for all.

It wasn't always like this, however. As recently as 1934 Minnesota's spruce outlook was dark. The Christmas tree industry suffered losses because of "bootleg" operators who waited until the season was at its height and then ran trucks into the spruce districts, chopped down hundreds of thick stands, then proceeded to gorge the market with the illicit trees. The bootlegger's overhead was merely his

gasoline and oil, with risk practically nil because of the paucity of forestry policing.

But in 1935, moved by pleas of legitimate operators and the forestry division of the state conservation department, the legislature under "An act relating to the conservation of evergreen and coniferous trees" gave the industry needed protection. Every Christmas tree sold in the state of Minnesota must now bear a little tag costing two cents. The color of the tag is changed each

year. This year it is maroon and gold. Every cent of the money goes toward policing the black spruce territories and protecting the Christmas tree industry.

The results are admirable. Today the tag law has built an industry that is valued at millions. Ninety-nine per cent of the bootlegging has vanished. Where not so long ago only two operators in the state were big enough to ship their trees on railway cars, fifty now ship by rail. Nor does the industrial valuation of the black spruce industry represent its only value to the state of Minnesota. By-products of the trees - gay wreaths and evergreen festoons - create other jobs and add to payrolls. Cutting the trees offers



Harvesting Minnesota's black spruce trees in the right way has built an industry that has brought modern methods to the Christmas tree business

its own problems. No truck, ordinary tractor, or horse can venture into the thick mud of northern Minnesota swamps and bogs. Special "cats" — powerful tractors with extra wide treads — are necessary.

First, men on foot clear a ten to sixteen foot swathe through the timber land. Young trees are lopped off with double bladed axes and the butts cut squarely across with bucksaws if the trees are for export. When the season is particularly dry, leaves are piled around the ends of the bundled trees until the "eats" come for them. These pull the bundles out of the bogs on broad steel "boats." The trees to be exported are loaded on boxcars. The others are thrown into trucks and sent to the Christmas tree factories where skilled workmen trim off the side branches and square the butts to fit one and a half inch birch slices.

After painting the cuts, drying takes two or three days under natural conditions. One large firm forces the issue by artificially maintaining high temperatures in the drying rooms, thus reducing the process to a matter of hours. The same company has an entire floor of cold storage space where it can keep thousands of trees indefinitely, though this has never been necessary. Last year on the first of October it stopped taking orders because it had a half million trees booked for delivery. In common with a number of other companies, it specializes in trees thirty to thirty-six inches in height for the rapidly growing table trade of people living in small apartments.

Of course supply and quality affect the industry. Perfect trees are rare. The hordes of squirrels that infest the black spruce area clip the branches from the tops of the trees, letting them fall to the ground, so that they can get at the succulent cones. Not one tree in ten escapes. Perfect trees therefore often bring special prices. Two winters ago a Minneapolis department store paid \$350 for a single Christmas tree. It was as tall as a house, close-branched, and as green as a living spruce. Most important, it was perfectly symmetrical when viewed from any angle.

A newcomer to the industry is the painted tree. The past six years have seen it come in glittering silver, sky-blue and brilliant green. One greenhouse is painting trees in pastel shades. Another is experimenting with red and green splashes on a silver base to give a peppermint stick effect. By accenting color, sales appeal is increased, while the tree itself becomes more fireproof after the volatile oils in the paint have dried. Up to a gallon of paint is needed to spray an eight foot tree. The paint must be tenacious, not too expensive and fire resistant.

Each company has its own established formulas, but new ones are constantly being developed for preserving trees and helping sales. A Duluth manufacturer has just announced a chemical designed to keep the tree a natural green for long periods of time. The tree is sealed into a flanged container which carries the fluid. Observers report that tests have been successful. Another recent but untested formula claims to be (Continuing on page 575)



Skilled workmen in the factories trim off the side branches, grading the trees to desired sizes and squaring off the butts



The cold storage floor in one plant, where thousands of trees may be kept indefinitely in perfect condition



The shipping room—gay Christmas trees from Minnesota's woods,—black spruce crated and boxed, ready to ride the Yuletide



### THE MYSTERY OF CHUKARS IN THE MOJAVE

By DR. CHARLES BARTON and WELDON D. WOODSON

NEAR Daggett, in California's great Mojave Desert, observers have been mystified by the appearance of the

chukar partridge, a native of the Himalayas. How is it, they are asking, that this bird of distant India should suddenly appear in the desert wilds of America?

The answer is known only to a few. We know it because we are friends of Daggett's Deputy Sheriff, Jim Lucas, one of those cherished citizens who are genuinely fond of animals and birds. And here is how it happened:

During a spring windstorm, a beautiful desert quail crashed against a window of a ranch house on the outskirts of Daggett, breaking its leg. The ranch was owned by Judge Dix Van Dyke, who not only reads Homer in the original Greek, but often holds court beneath the

ironwood trees in his ranch yard. The judge carried the injured bird through the storm to a doctor, who

applied a plaster splint. Then he sought out his friend, Deputy Sheriff Jim Lucas, and presented the quail to him, knowing that it would be expertly cared for. The deputy tenderly placed the feathered patient in a large, comfortable outdoor cage he maintained for doves and christened him "Colonel Robert."

The leg healed quickly, and the Colonel strutted about the eage, the self-appointed boss of the doves. But this situation did not hold for long. Another windstorm brought to the deputy's aviaries a second quail - an exhausted, frightened lady, crouched pitifully in a corner of the chicken yard. She was immediately christened



(c) Automobile Club of Southern California

Judge Van Dyke's ranch-yard, in the Mojave, where sometimes court is held. Deputy Sheriff Jim Lucas (left), when not trekking down law-breakers, works with his aviaries, housing desert birds of many varieties, including the mysterious chukar "Mary" and placed in the cage with the Colonel.

When their friendship ripened, Deputy Lucas built a cozy home for them—a comfortable old tree limb to roost upon and a brush pile for privacy. Out of this one bright morning Mary paraded a brood of fluffy, brown mites which immediately began playing the old quail game of climbing onto and sliding off their mother's back.

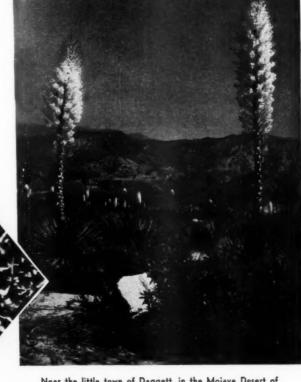
The deputy was very proud of the youngsters, exhibiting them frequently. And when Otto Rowland, an inspector for the State Division of Fish and Game, informed him that the chicks and parents must be liberated unless he obtained a permit to raise and keep game birds in captivity, he lost little time in doing so. This permit he framed and hung in the quail house.

Inspector Rowland became very much interested in the quail family, and as they increased in number he watched the deputy build larger quarters for them. Then one day he appeared with a small box tucked under his arm. When opened, the deputy looked upon fifteen buff-colored eggs, each about the size of a pigeon egg. The Inspector explained that they were eggs of the chukar partridge

visitor—an old friend long supposed dead. As he chatted with him the deputy noticed a wooden box in his car, and through its slats he saw the yellow, fluffy feathers of a bantam.

The little hen was not averse to setting, and the chukar eggs were immediately placed under her. In time they were hatched. When the chicks reached maturity they began to mate, their broods being much larger than those of the mountain quail. Additional pens were built, but even these could not accommodate the increasing chukars. They roosted in the trees, on the clothes line, even on the porch of the deputy's home.

Then real trouble set in. Being wild and needing to scratch for their food, an abundance of grain was



Near the little town of Daggett, in the Mojave Desert of California, where flocks of chukar partridges — natives of India — appeared, to mystify many people

and had come from India. It would be interesting, he thought, to know just how chukars would thrive in the Mojave Desert. Perhaps Deputy Lucas would help him out.

The deputy would—but how? It was very simple, Inspector Rowland explained, if the law officer would set them under a bantam hen. A chicken would be too large, perhaps break the eggs. But the deputy did not keep bantams—nor did any of his neighbors. Then, as they pondered their problem, the luck that had brought the Colonel and Mary to his aviaries during the spring windstorm again took a hand. Deputy Lucas had a

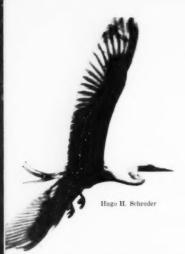
strewn on the ground. This attracted mice, which, in turn, lured cats of every description. There was only one thing to do, the deputy and the inspector reckoned, and that was to release the chukars. So with Judge Van Dyke and several other interested citizens, they sought out an area for a game reserve. They found it in Ord Valley, about fifteen miles from Daggett. It was a thickly covered sage and greasewood expanse near the Ord Mountains, with constant water, and without human occupation.

So to this natural haven they carried sufficient partridge and quail to stock a kingdom. For at the last moment, Deputy Lucas, realizing his own love for the open desert, decided to give the Colonel and Mary, along with their family, their freedom. Of signs that were posted there was little need, for only a single road leads through the valley. (Continuing on page 575)

The chukar

in the wilds

Photograph by Biological Survey



### On the Irail of Natural Beauty in Florida

By DEVEREUX BUTCHER

THE FLORIDA landscape is frequently disappointing to the visitor. The country is too flat, it is said, or it is uninteresting and monotonous. Of course, human nature being what it is, one should not try to determine what another ought to like, particularly in the matter of landscapes; but it is entirely possible that those who find the countryside of Florida uninteresting and monotonous have failed to see it in all of its aspects. True, it is mostly flat, though not entirely so. True, too, that it has been irreparably harmed by forest and prairie fires which have raged unchecked over the land for years. But if one looks behind these fire scars it will be found that Florida possesses a wealth of variety in scenery, vegetation and wildlife. And though there is none of the colorful glamor of the West; none of the invigorating whiteness of northern winters; none of the brilliance of autumn foliage as in the upper part of our country; yet, for him who would become acquainted with it, Florida holds no disappointment.

Interested primarily in discovering the aspects of the Florida scene, not in comparing it with other sections of the country, I found it a land of enchantment.

Of course, the original primitive landscape of Florida is to be found today only in isolated areas, particularly in state parks and forests; but this is not so of natural beauty. There are innumerable places where one may see the fascinating aspects of the Florida wilds. Visit the prairie lands west of the Indian River, a wide stretch of country dotted with clumps of cabbage palms. Here you will see the tall sandhill crane and the rare Audubon's

A land of enchantment is Florida, where much of the original landscape is preserved and natural beauty is everywhere



caracara. You will see, too, the weird limpkin and the little burrowing owl. Explore by boat the rivers with their jungle-covered banks; travel down to the keys where mangroves rise from the sandy reefs of the Gulf of Mexico; see the least tern like a white swallow, and its large red-billed cousin, the royal tern, skimming the green water of the lagoons. Here dwell the kites, the man-o'-war bird with forked tail, and the rarest and largest of herons, the great white.

Visit the beaches of the east coast and watch the lines of brown pelicans flying above the waves; and see, suspended over the ocean, vast cumulous clouds towering into the sky, their billowing tops shifting as they move forward in overwhelming grandeur; journey into the lake region, an expanse of rolling hills covered mile after mile with citrus groves. Near the town of Winter Haven is Lake Eloise, unique among other lakes because of the stand of age-old cypress that encircles it. The trees of this forest grow in the water as well as on land, their bases broadly buttressed and their limbs draped in Spanish moss.

I discovered lovely Lake Eloise one day when, in a row-boat, I emerged from the mouth of an overgrown canal. It is a strange, silent place, as fantastic as a fairytale setting. The boat, passing quietly along through the trees, now and again disturbed a Ward's heron which would flap lazily toward open water and disappear. Little green herons fluttered up squawking from muddy banks and vanished among the

vines, myrtle trees and cypresses; pairs of wood duck, aroused in their retreat, splashed from the water, circled out and back to alight elsewhere in the forest; and here I saw for the first time a water turkey, a glossy black bird with snake-like neck and narrow head. I stood on the eastern shore of Lake Eloise in the calm of evening. There, in the silence of tall trees mirrored in the water, I watched the sun above the distant shore slipping through purple haze in the western sky.

If you are a seeker after beauty and the rare among the many forms of nature, there is a place in the Florida panhandle you should visit. Along the east bank of the Apalachicola River there is a wilderness area where you will find two of the rarest trees on earth, the Torreya pine and the Florida yew. The first has feathery, bright green foliage very much like that of balsam fir, and bark similar in both texture and color to that of northern white cedar. In appearance the tree somewhat resembles hemlock, but is very much smaller. One ridge in particular contains a fine stand of Torreya pine where their drooping forms add an unusual touch to the forest land-



Devereux Butcher

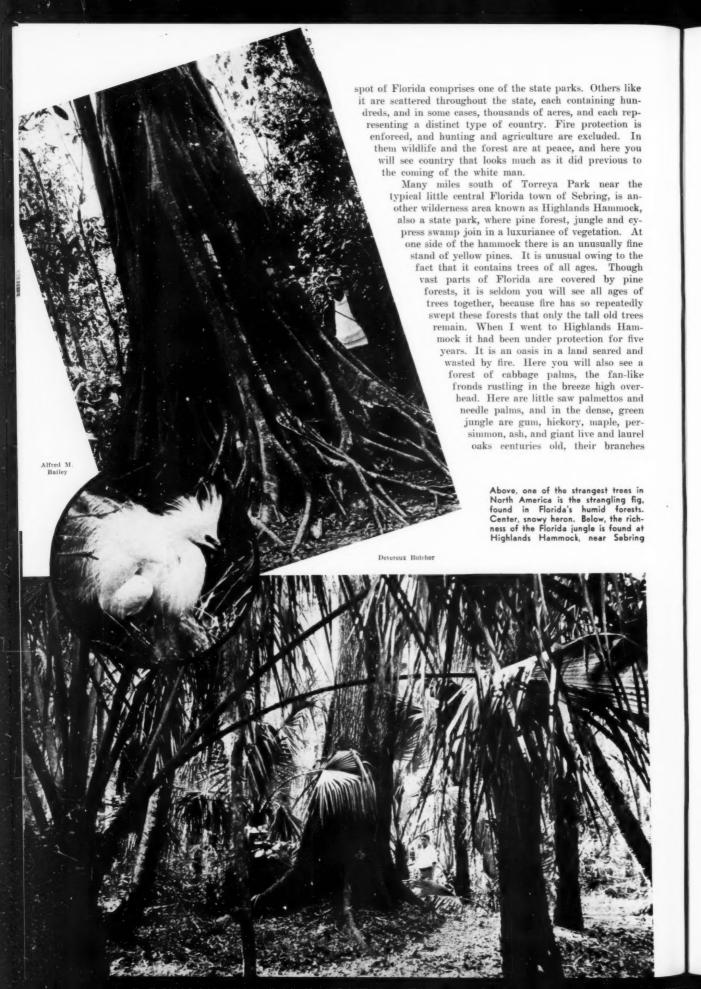
Gray curtains of Spanish moss add mystery to the Florida cypress swamps

scape. This tree is native in on'y one other place in the world, and that is Palestine.

The range of the yew is even less extensive. It is found in only two small stands right here beside the Apalachicola. In appearance it is a little like the other, but the branches do not droop and the foliage is more bristly, and, oddly enough, the bark is quite like that of eucalyptus, having a reddish tint, and peeling off in large scales.

In the company of these trees you will find all the pines common to the south including the great loblolly and longleaf. On the heights are beeches of massive proportions, oaks, holly, linden, maple, while in the lowlands along the river are sycamores, needle palms, cypress, gum, and two varieties of magnolia, one of which — the large-flowered magnolia — reaches a height of from seventy to a hundred feet. There is yellow-flowering jasmine, wild hydrangea, azalea, and among the Torreyas I found many plants of a small, red-flowering trillium whose leaves were decorated with angular mottlings in three shades of green.

Named for the Torreya pine, this wild and little known



decked with air plants, mosses, and orchids. You will walk dryshod through the cypress swamp on an elevated walk that weaves its way among the trees. The swamp and converging streams are the home of alligators, and if the day is warm you will see them sunning on the grassy banks, or stretched upon the trunk of a fallen tree. In one part of the park is a grove of wild sour orange trees where I watched a herd of deer eating the fallen fruit. Gray squirrels also ate the oranges, or carried them to a hollow in an old oak.

When I finally turned to leave the hammock the sun had gone and twilight filled the jungle. With the approach of night a chuck-will's-widow had come forth from the depths of the forest to sit upon a stump beside the road. One of the oddest among the avian tribes, it resembles the whippoor-will, but is larger. He seemed unaware of my presence as he flew again and again in butterfly-like girations catching insects on the wing. This was a treat, indeed, because it is a bird of nocturnal habits, and consequently is rarely seen.

The easiest way to obtain a view of the Everglades is to follow the Tamiami Trail by automobile, but this way one does not get to know that part of Florida which is so different from the rest. Here again it is necessary to leave the beaten path and plunge into the wilderness. In the Everglades there are many places to choose from, but one (Continuing on page 574)

Above, the stately royal palm, native to one small area in the United States—the Florida everglades. Center, snowy egret. Below, the cypress forest at Highland Hammocks is one of the most beautiful in the South

Devereux Butcher



### **EVOLUTION OF THE TIE-HACK**

By ROY WILLIAMS



Rapid changes in the industry are thinning out the old tie-hacks. Here is a picturesque line-up of old-timers who for twenty-five years or more, have been hawing out railroad ties for one of our transcontinental railroads

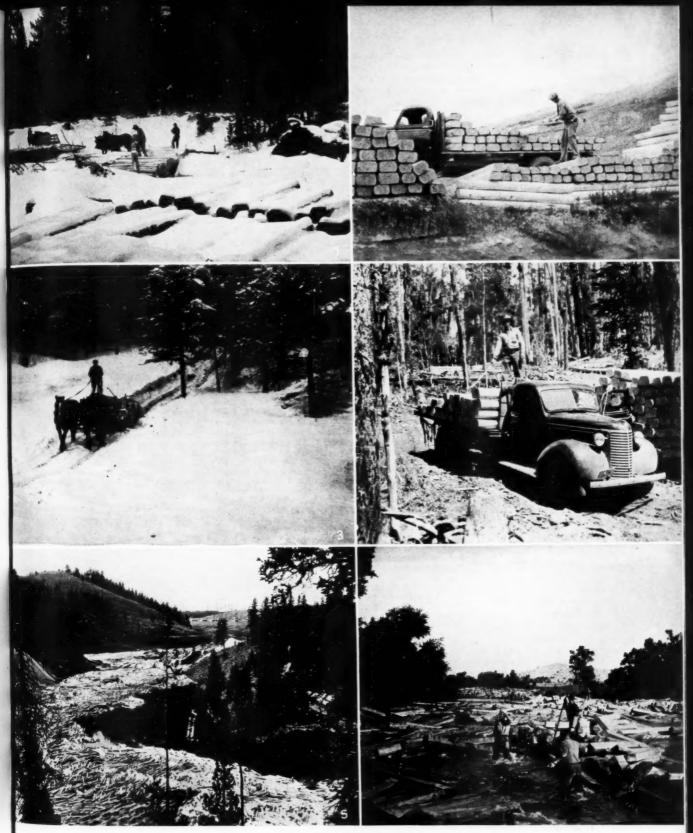
STEWART H. HOLBROOK, in Holy Old Mackinaw, traced the lumberjack from Maine to the Pacific Coast in a never-ending search for bigger and better timber. He pictured the evolution of the lumberjack type from the rough, crude uneducated men who lived in the woods, knew little or nothing of the outside world and cared less. Those who came down with the drive once every year spent their stakes in a few days of riotous celebrating and returned to the woods, happy and broke.

He then brought out how this has changed, how the camps are now clean, modern communities with quarters for families and schools for children; how the lumber-jack has become an efficient, skilled workman; how modern machinery and equipment are replacing the old hand and animal methods; how a more efficient milling practice and a sustained yield system of cutting, with their stabilizing influence upon communities, are affording woodsmen an opportunity to remain in one locality for many years, to live a lifetime on one operation.

In looking back over the tie operations on the Washakie National Forest, in Wyoming, the evolution of the lumberjack, the change in operating methods, and the stabilization of population within the area are very definite and interesting. Of course, many of the changes mentioned by Holbrook had taken place prior to the Washakie operations. Sustained yield and selective logging were required from the beginning, but many rough edges were still exposed and many hardships were endured by the "tie-hacks" between 1913 and 1930.

Operation was based on an annual production of 400,-000 ties. This was before the development of the portable sawmill and few sawed ties were produced by the large steam mills. It was a "hacking" operation in the early days, requiring a large amount of labor, almost entirely Scandinavian, of which seventy-five per cent were Swedes. As many of these came directly to Wyoming from the docks of New York, Swedish was spoken almost universally in the woods. West DuNoir Campwas famous for its "Swede" Indian and "Swede" negro. Both were teamsters and had worked with the Swedes so long they had acquired the language.

There were in the early days, and still are, three types of camps. First, the family camps where married men may live, and where their children may attend school. Generally these are headquarters camps, haulers and sawmill camps—the more or less permanent camps. Then there were the company camps with the old-time bunk houses, double decked muzzle loading bunks with as few windows as possible and most of these boarded up; company mess halls which produced thousands of barrels of coffee annually, where the bull cook wakened the camp with the "gut hammer" long before daylight every morning. Finally, there were the bachelor camps scattered throughout the sale area. Old Swedes who had especially good strip lines, who disliked the long walk from main camps, the regular routine, or the ever increasing and changing population of these camps, simply threw in together, built a cabin of dry logs, bought a stove and a few dishes at the commissary and set up housekeeping. When their strip was cut and a move necessary, they carried their belongings to a new cabin, set fire to the old one, and the job was done.



THE OLD AND THE NEW

(1)—Old-time banking ground on the river, where the ties were delivered by teams and sleds; and (2), modern banking grounds along the river, where the ties are delivered by motor trucks during the summer months. (3)—An old-time tie hauler, moving ties from the woods to the landing during the winter season; and (4), in the modern manner, by motor truck, over good roads, in the warm weather. (5)-(6)—Not much change here, for each year the main drive starts down Wind River in July, encountering the same old obstacles,— jams, low water, high water and "squeak heels," requiring the same real man-power, as of old

These bachelor camps were especially popular during prohibition days. If the cabin had a board floor, there was always a loose board under which could be found a supply of home brew. If the floor was dirt, the cache could generally be found in a corner of the room or under the bunk.

Lumberjacks, and especially tie hacks, have always been a migratory lot. No tie hack ever finds good timber on the job where he is working. It is worse than the last job, which was awful, or there is much better timber "over the hill." Migrations are less now than in the old days. Then, transportation was slow and costly and when the "hack" made a move, he was generally forced to stay long enough at the new camp to make a stake on which to leave again. Now he goes by car, looks the new job over and, if he doesn't like it, returns

at once to the old one.

Transportation has influenced timber operations more, perhaps, than any other factor. The lumber industry marched westward with the railroads, which were, and still are, one of the country's greatest woodusing industries. They provide both a means of transportation and a market.

On some forests, such as the Washakie, there is a big gap between the railroad and the woods operation. In 1913 the hundred miles between Riverton and DuNoir required three days' travel when roads and weather conditions were good. Food supplies, men and equipment had to be hauled by team and wagon from the railroad at Riverton. Dubois, the only intermediate town, was a wide place in the road, although it did provide a headquarters for the old Bonneville Forest, now part of the Washakie.

Then came the automobile, and the old wangan wagon was replaced by a

motor truck. Roads were poor, but during periods of exceptionally good weather a man could get out in a day or back to camp in a day. Roads have improved and so has motor equipment. Now the trip from Riverton to headquarters camp requires but three hours over an oil surfaced highway. The lumberjack is no longer an isolated man. His family lives with him in comfortable quarters; he frequently loads them in his car and enjoys an evening at Lander or Riverton.

The change has been equally as great on the job itself. No longer are "green Swedes" arriving in New York. Those on the job are getting old. Hewed tie production is dropping off. American-born Swedes do not take to the broad-ax. They much prefer to drive trucks and tractors or operate sawmills. The railroads have discovered sawed ties handle better, take treatment more readily, and require less work to install than hewed ties.

Sawed tie production on the Washakie jumped from five per cent in 1914 to fifty per cent in 1939. The steam sawmill with its heavy equipment has disappeared; in its place are mobile units driven by gas and oil burning tractors, mills that move from job to job like a threshing machine. Two hundred ties make a stop worthwhile.

With this rapid change from broad-ax to sawmill, from tie hack to log chopper, the motor truck is found replacing teams on the landing hauls. Instead of the old snow roads over which, throughout the winter, the bobsleds with four's used to jingle, graded truck roads are now the rule and, except for extremely rough or wet country, hauling is done by truck in the fall and early winter. Believe it or not, they actually plow snow off the main haul roads nowadays. Teams are required only for skidding. In 1915 there were perhaps 100 teams on the Wind River project in the Washakie. One might find twenty teams now, during the rush season.

This revolutionary change in transportation and manufacture of ties has affected the entire industry, even the operating season. Sawmills cannot operate in the dead of winter when timber is frozen and snow too deep to skid logs; trucks cannot haul in the winter; most of the crews leave the woods, returning in the spring. The winter camps are occupied only by the tie hacks, log cutters, and a few teamsters who spend their time skidding ties to the truck roads.

This change has also affected Forest Service administration of the sales. In the old days a crew of from three to six men was required throughout the year, with additional help for marking trees during the summer. The sales are now handled by the district rangers during the winter, and only two additional men are required for summer marking. The annual cut is approximately the same, but improved trans-

portation has made it possible for one man to accomplish as much in one day as three men did a few years ago.

The march of progress has, within a few years, completely revolutionized the entire operation from "bull cook" to project ranger. The drive remains much as it was in the old days, though it, too, has had its changes. Each year around June 1 the ties start moving down the small streams to the booms, and around July 20 the main drive starts down Wind River. Each year the same old obstacles are encountered-jams, low water, high water and "squeak heels." Each year the drive camp moves slowly along the river, a motor truck nowadays, followed by the wives of the married drivers who run out in the family car with clean clothes and the daily newspaper. Each year the drive arrives in Riverton about September 1. But gone is the big celebration down by the tracks. Gone is the hilarious celebrating by the entire crew, who used to take over Riverton and Hudson. Only a family picnic now marks the great event.

### 66th ANNUAL MEETING

The American Forestry Association April 15, 16 and 17, 1941 at Los Angeles, California

Los Angeles, California, will be the scene of the 66th Annual Meeting of The American Forestry Association, marking the first time this national organization has held its annual sessions on the Pacific Coast. The dates of the meeting have been announced as April 15, 16 and 17, 1941.

With land use in the West as its keynote, the conference promises to be one of the most interesting in the history of the Association. Problems to be dealt with will be of timely and vital significance, clear-cut issues affecting not only the millions of acres which form the western half of the nation, but the country as a whole. Details of the program, which will include interesting field trips, will appear in future issues of

AMERICAN FORESTS. In the meantime, plan to be in Los Angeles in April. Have a part in the Association's first annual meeting in the Far West; meet with fellow members and other conservationists; see at first hand some of the outstanding forestry and conservation developments on the Pacific Coast; enjoy, too, the beauty of southern California in April. Make 1941 your year to attend

the Association's annual meeting, and invite your friends to join you. The place — Los Angeles, Cali-

fornia. The time - April 15, 16 and 17, 1941. Make your plans now!

### EDITORIAL



#### **NATURE MONUMENTS**

WHEN, in 1938, the Eighth International Conference of American States, meeting at Lima, Peru, authorized a committee of experts to study the problems of nature protection and wildlife preservation in the American Republics, it was hoped a definite plan of Pan American conservation would evolve. This hope has now been realized. On October 12, seven Latin American governments and the United States ratified a Convention to protect and preserve in their natural habitat representatives of the native flora and fauna of the American Continent.

The importance of this action cannot be minimized. Giving as it does full recognition to the need of hemisphere conservation, it likewise sets up new and interesting ways of achieving it. The contracting governments agree not only to an exchange of ideals and scientific knowledge, but also to a basic uniformity in types of protective areas. Pledged to be established are national parks, national reserves, wilderness reserves and nature monuments. The first three are familiar terms, but the last, nature monuments, offers something refreshingly new.

Under the terms of the Convention, "regions, objects, or living species of flora and fauna of aesthetic, historic, or scientific interest" would be given strict protection in nature monuments. More specifically, a single object or a single species may be thus preserved.

Just what legislative action will be necessary to establish nature monuments in the United States is not clear at this time, although in signing the Convention our government is pledged to provide a way. However that may be, the enactment of necessary laws would open the door to preservation of many objects of aesthetic, historic and scientific interest which now enjoy only such protection as private interests and individuals bestow upon them. As a case in point, consider the largest specimens of American trees which The American Forestry Association is now locating for the purpose of preserving them. With legislation provided to establish nature monuments, these aristocrats of treedom may be assured protection for the duration of their natural lives, instead of for the duration of private interest and initiative.

#### CONSERVATION UNITY

THROUGHOUT the campaign and since, one question upon which there has been unanimous agreement is the need of national unity in meeting the emergency with which the country is confronted. That agreement is meaningful only to the extent that we make national unity live in terms of action in all fields that will contribute to military defense and economic preparedness. Conservation of natural resources is one of those fields.

The country is fortunate in having with few exceptions natural resources adequate to immediate needs of military preparedness and peace-time economy. It is in the matter of future economic security that wise and projected management of resources adopted now and vigorously prosecuted will count most heavily in carrying the nation through the critical post-war period. This being true, it follows that every consideration of national interest calls for unity of purpose and effort in the conservation field.

Today a great variety of conservation activities are spread over the country. Great sums are being spent in their prosecution. Fifty or more different agencies, mostly state and federal, have extended their conservation arms into virtually every section of the land. A tremendous amount of fruitful work has been done and is being done but no informed person viewing the field broadly can truthfully say that a spirit of unity runs through it or binds it together into a common program of clear-cut objectives.

On the contrary, different agencies have become increasingly dominated by their own self-made objectives and their own self-interests with the result that rivalry and disunity have developed and many lines of coopera-

tive action have been broken by factionalism, open conflicts and introverted propaganda. As a sequence the national over-all program of conservation, great and worthy though it is, has tended to loose ends, distorted parts and absence of strong and unified leadership. The burden of blame, we think, rests primarily upon the federal government, which is conservation's strongest segment, because of its failure to furnish unified leadership and a unified program and instead has permitted factionalism to spread among its own bureaus.

What has been said is not meant to discredit or belittle the work that has been done by the many agencies today engaged in conservation activities. It is meant to emphasize that had all these forces for conservation been dominated by a spirit of unity and a common program, accomplishments would be infinitely greater and the nation would be further along the road to economic security. This has now become conservation's immediate challenge.

To meet the occasion and for its own honor, conservation should do its own house-cleaning, promptly and forthrightly. Let its leaders lay aside old scores, entrenched opinions and traditional partisanships. Let them hold singly and collectively to the transcendent fact that this country is face to face with war and the aftermaths of war. Let them resolve differences openly and above board in a free play of those elements that make for conservation unity no less than national unity—good will, unselfishness, open-mindedness, and a spirit of compromise to reach a common goal. Once that is done their followers will follow with a new enthusiasm and conservation progress will surge forward like an undammed stream.

### THE BUSINESS OF GROWING CHRISTMAS TREES

By HERBERT R. COX

AFTER twelve years of growing and several years of marketing spruce and fir Christmas trees, I venture to offer a few observations on the business which may be of interest to prospective planters. Let us look frankly at the subject in an effort to uncover the pitfalls as well as to point out the opportunities in this

Most Christmas trees sold in the northern states come from old pasture and cut-over lands in Canada and bordering states. The operator who buys, cuts, bundles, ships and sells these trees, and in addition pays import duty on trees from Canada has built up a fairly sizable investment. He must get a fair price for his product. Furthermore, he must sell it in a brief period of time which ends abruptly on the night of December 24. It would seem that the grower of planted trees whose property is somewhere near the consuming centers has many advantages over the dealer in northern trees, especially since he does not need to cut them until there is good prospect of their being sold.

But there are hazards in the cultivated tree business. Furthermore, the northern dealer, in the northeastern territory at least, is selling largely a species, balsam fir, which comes near being the ideal for Christmas tree purposes. Unfortunately balsam cannot be grown so very satisfactorily in the consuming territory of this country.



The National Community Christmas Tree at Washington

The grower of cultivated trees, therefore, has and will continue to have severe competition from the northern wild tree, and the only way he can meet this competition successfully is to offer for sale as good a product or better at a price less than or no higher than that for northern trees. I have visited many of the cultivated tree plantations in the northeastern states and I am convinced that a considerable number of them will cause little concern to the northern tree operator.

> The reasons are many. They include poor sites with reference to soil, topography and markets; poor planting practices; insect and disease troubles; fires, lack of pruning, and strange to say, trees becoming too large before being marketed. The growing and selling of Christmas trees is a specialized business, like dairying or fruit growing. The person who plans carefully and keeps a sustained interest in the undertaking is apt to



Highly specialized is this business of growing Christmas trees — who knows but one of the little vigorous ones in this plantation in New York may grow tall and some day come to Washington to be lighted on Christmas Eve by the President of the United States? succeed. He who goes about it casually, as so many

people have, is apt to fail.

The question of first importance perhaps is the site. Success or failure depends to a large degree upon choosing a suitable location for the plantation. Before the site is selected it would be well to consider carefully the future of the undertaking. How and where are the trees to be marketed? Is the soil satisfactory? Is there danger of fire or theft? . Are there nearby seed trees of wild species that will cause brush to come in rapidly?

Although the pines grow fairly well on poor soil the spruces and firs will not. The ideal soil for these species is one that is well drained and with fair organic matter content. If it has not been limed, manured nor fertilized for some years it may carry a thin sod, and this situation should be favorable to young trees. A large number of loose stones in the soil is not a disadvantage, excepting that it makes the job of planting a bit difficult. As to texture, the loams or sandy loams are much to be preferred. Young trees are quite apt to heave on heavy or claylike soils.

There is a general feeling among well informed people that a north or east slope is much better than a south slope. I have seen balsam fir growing thriftily on a north slope and failing miserably on a south slope in the vicinity of New York City.

A question which sometimes comes up in choosing the site is whether to select cleared land or brush land. By all means select cleared land. You will probably have trouble enough with brush coming in

even on such a location.

The cost of the land always arises in choosing the site. The common opinion is that trees should be planted only on cheap land. If the Christmas tree venture is a success it will justify fairly high priced land, one hundred dollars an acre or even more. Cheap land will not save a poorly managed plantation from failure.

The species to be planted is an important subject for the prospective grower to consider. In the northeastern states, Norway spruce has been rather generally recommended and planted. This tree makes a reasonably fast growth, has good color on favorable soil and the planting stock can apparently be grown by nurseries at lower costs than in the case of other spruces and the firs. Norway spruce, however, has certain weaknesses. Like the other spruces, it drops its needles more quickly than do the firs. On unfavorable soil it develops poor color — a yellowish green. It is subject to attack by the gall aphis, an insect which can stunt the growth and seriously mar the appearance of the tree. Foresters and horticulturists seem to be losing their enthusiasm for the Norway spruce.

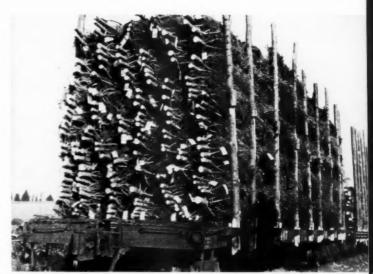
In some respects white spruce is superior to Norway. It has beautiful color - a light bluish green during the growing season, but this is apt to fade to a dull gray during winter. It is not as badly subject to gall aphis as Norway, and it develops a more compact and shapely form. White spruce is slower in growth than Norway and the planter usually has

to pay more for his stock.

The Colorado blue spruce is sometimes mentioned as a Christmas tree. Individual plants of this species vary from deep green to blue. From my own experience I doubt whether the young trees can fight their way with weeds and grass quite as successfully as Norway and white spruce. Also the planting stock



Loading fine specimen trees at a farm in New England to be sent to distant cities



Shipping Christmas trees from the North, graded for quality, to the marketing centers



S. Forest Service

Holiday buyers in the market place today can readily find exactly the right tree for the right spot

is higher in cost. It should be popular in the market, however, and is well worth considering.

The case of balsam fir has already been discussed briefly. If you can grow this species satisfactorily you need look for no other, but be sure you can grow it before

you plant in quantity.

Douglas fir is also worthy of consideration. Some planters have reported that Douglas has not grown satisfactorily. Whether this is due to source of the seed or to climatic or soil conditions is not clear. Under favorable circumstances this species has good color, light green to bluish green, makes a compact, shapely growth, requires little pruning of side branches and holds its needles as well as balsam.

Of the pines Scotch seems to be making headway in Pennsylvania and some of the States farther west. A grower might have considerable difficulty in selling Scotch pines in the cities of the Northeast, which are accustomed to balsam and trees much like balsam, such as the spruces. It is reported, however, that once a customer buys a well grown Scotch pine he is apt to purchase another the following season. Under favorable conditions this species has a good blue-green color, the needles hang on like grim death, it grows quickly and the stock is inexpensive. Shearing the young growth in late spring will produce a compact shapely tree and is an essential to the successful production of this species for Christmas tree purposes. It can be sold at a lower price than the other species and still leave a margin of profit.

There are several other species which may merit attention. Concolor or silver fir and Fraser fir make beautiful trees, but they develop more satisfactorily under

clean cultivation than without cultivation.

It seems desirable to plant trees of a number of species in a Christmas tree plantation. This is not only safe procedure from a production viewpoint but it provides a variety of products, which is of advantage to the grower in supplying a local market. There seems to be great variation in taste among consumers when it comes to picking out trees for the holiday season, and it is well for a producer to be in a position to meet this variable demand.

Some growers plan exclusively with reference to producing Christmas trees. Others combine forestry with Christmas trees, with the expectation of permitting a certain proportion of the plants to develop into timber. There are good arguments in favor of both plans, but the grower would do well to decide at the start which of the two he will follow.

Planting stock is secured either from private nurseries or from State nurseries in states where there is no restriction on cutting the trees for Christmas. The stock may be either seedlings or transplants. Where trees are to be set in sod land it is generally advisable to purchase transplants of the spruces and firs, although fair sized, well grown pine seedlings are entirely suitable. Early spring is the best time for planting. There are various planting tools and planting methods. The best way to set the trees will depend upon the conditions. Full directions on how to plant trees may be obtained from your State Extension Forester or County Agricultural Agent.

Most Christmas tree plantations are established on uncultivated land, in sod or weeds. A few men have undertaken the business in a more intensive manner by plowing and preparing a good planting bed before setting the trees, followed by clean cultivation. The latter phase is practically a nursery operation and might be preferable if some of the plants are to be sold as living trees. There is more expense involved but it has the advantage of

speeding the growth of the tree. A compromise plan is to clean cultivate for a year or two, then let the weeds grow if they will. This usually results in less grass and weed competition after cultivation ceases than if the trees had been set on untilled land.

Plantings of spruces and fir on sod land may be expected to reach marketable size in from eight to fifteen years. During this long period the young trees are exposed to a variety of hazards. The most distressing is fire. A planting on sod can be wiped out in an hour by a grass fire. It is possible to insure against this loss.

Rabbits seem to delight in nipping off very young trees just above the ground, not to eat them apparently but for the fun of it. One active rabbit can kill dozens of young trees in a single day. Deer can be something of a nuisance. And grubs of various species, particularly the June beetle, will eat off the roots of young evergreen trees within an inch of the soil surface, resulting in the death of the plant. Mound-building ants occasionally will sting fairly sizable trees and kill them. The gall aphis on spruces has already been mentioned. The grower must constantly be on the alert against these and other enemies and be prepared to meet them when they appear.

Also, the grower must be prepared to do some pruning if he is to produce the shapely compact Christmas tree the buyers want. Pruning has a twofold purpose. It should be employed to prevent the tree from becoming "leggy," making too long a terminal growth. This is accomplished by cutting back the leader and the other high terminals to produce a bushy top. Pruning should also be employed to hold back side branches which have gone out too far. This operation is usually performed on the spruces and firs during the dormant season, from early fall until the following spring.

If spruces and firs are located on land which is not of fairly good quality, especially land low in organic matter, they may be lacking in color. This condition may be remedied by making an application of a nitrogenous fertilizer. Sulphate of ammonia, nitrate of soda, cyanamid, cotton-seed meal or mixed fertilizers high in nitrogen may be used to improve the color of these trees.

Assuming the grower has successfully brought his trees through all the dangers of their growing-up years his real troubles are apt to be ahead of him. Marketing the crop is the most difficult part of the business, particularly if the plantation is located at a long distance from the consuming centers. If the grower is close enough so that buyers with trucks can be induced to come to his place, he is fortunate. Those buyers frequently pay from fifteen cents to thirty cents a tree, depending on quality and size,—cut, trimmed and delivered to the truck. There are various other ways of selling trees, and each grower will have to work out the method which seems most suitable.

One of the best procedures in marketing is, through newspaper advertising and circulars, to bring the consumers to the plantation to pick out their own trees. Necessarily this implies that the plantation is within easy driving distance of a town or city. Several of the most successful growers I know are selling their trees largely in this way. The price received varies from fifty cents to \$1.25 apiece. It is a type of business well suited to the vegetable or fruit grower who is not particularly busy during the month of December. The size of his plantation should, of course, be adjusted to the size of his market. By planting a small proportion of the total every spring he will have a uniform supply of marketable trees through a period of many years. This manner of growing and selling offers, I believe, the real opportunity in the Christmas tree business.

### AMERICAN REPUBLICS SIGN CONSERVATION PACT

### Convention on Nature Protection and Wildlife Preservation Ratified by Seven Latin American Governments and the United States

THE Convention on "Nature Protection and Wildlife Preservation in the Western Hemisphere," drawn up by a committee of experts from the twenty-one American Republies early this year, was signed by plenipotentiaries of seven Latin American governments and the United States on October 12 at Washington, D. C. Since but five signatures were necessary to ratify the Convention, it will become effective on January 12, 1941.

The purpose of the Convention is the protection and preservation in their natural habitat of representatives of all species and genera of the native flora and fauna of the American Continent, "in sufficient numbers and over areas extensive enough to assure them from becoming extinct," and the protection and preservation of "scenery of extraordinary beauty, unusual and striking geologic formations, regions and natural objects of aesthetic, historic, or scientific value."

The Convention consists of twelve articles, the first of which defines the types of protective areas agreed upon. National Parks are defined as "areas established for the protection and preservation of superlative scenery, flora and fauna of national significance which the general public may enjoy and from which it may benefit when placed under public control." National Reserves are defined as "regions established for conservation and utilization of natural resources under government control, on which protection of animal and plant life will be afforded in so far as this may be consistent with the primary purposes of such reserves."

Nature Monuments are defined as "regions, objects, or living species of flora or fauna of aesthetic, historic, or scientific interest to which strict protection is given. The purpose of nature monuments is the protection of a specific object, or a species of flora or fauna, by setting aside an area, an object, or a single species, as an inviolate nature monument, except for duly authorized scientific investigations or government inspection." Strict Wilderness Reserves shall denote "a region under public control characterized by primitive conditions of flora, fauna, transportation and habitation wherein there is no provision for the passage of motorized transportation and all commercial developments are excluded."

Under Article 2, the contracting governments agree to establish national parks, national reserves, nature monuments and strict wilderness reserves "where establishment is feasible" and "as soon as circumstances will permit."

Article 3 provides that the contracting governments shall not alter boundaries of national parks except by legislative authority; that resources of these areas shall not be subject to exploitation for commercial profit. Furthermore, the governments agree "to prohibit hunting, killing and capturing of members of the fauna and destruction or collection of representatives of the flora in national parks except by or under the direction or control of the park authorities, or for duly authorized scientific investigations." The governments further agree to provide facilities for public recreation and education in the national parks "consistent with the Jurposes of

this Convention." Wilderness reserves, under Article 4, are to be kept inviolate "except for duly authorized scientific investigations or government inspection."

Under Article 5, the governments pledge themselves to adopt legislation which will "assure the protection and preservation of the natural scenery, striking geological formations, and regions and natural objects of aesthetic interest or historic or scientific value." Cooperation among the contracting governments in promoting the objectives of the Convention is provided for in Article 6. To this end they will "lend proper assistance, consistent with national laws, to scientists of the American Republics engaged in research and field study; they may, when circumstances warrant, enter into agreements with one another or with scientific institutions of the Americas in order to increase the effectiveness of this collaboration: and they shall make available to all the American Republics equally through publication or otherwise the scientific knowledge resulting from such cooperative effort."

Article 7 calls for the adoption of appropriate measures for "the protection of migratory birds of economic or aesthetic value or to prevent the threatened extinction of any given species." Furthermore, adequate measures "shall be adopted which will permit, in so far as the respective governments may see fit, a rational utilization of migratory birds for the purpose of sports as well as for food, commerce, and industry, and for scientific study and investigation." Article 8 declares the protection of certain species to be of "special urgency and importance" and urges that permission for their killing, capturing, or taking be granted only "in order to further scientific purposes, or when essential for the administration of the area in which the animal or plant is found."

Rules for the importation, exportation and transit of protected flora and fauna are set forth in Article 9. Each contracting government shall take the necessary measures of control and regulation by issuing certificates authorizing the exportation or transit of protected species, or parts thereof, and by prohibiting the importation of any species protected by the country of origin "unless accompanied by a certificate of lawful exportation."

Articles 10, 11 and 12 deal with protocolary matters, and stipulate, among other things, that "the terms of the Convention shall in no way be interpreted as replacing international agreements previously entered into; that the Convention shall come into force three months after the deposit of not less than five ratifications with the Pan American Union; that any contracting government may at any time denounce the Convention by a notification in writing to the Pan American Union, the denunciation to take effect one year after notification, "provided, however, that no denunciation shall take effect until the expiration of five years from the date of the entry into force of the Convention."

In addition to the United States, the American Republics which have ratified the Convention are: Peru, Venezuela, Ecuador, Cuba, El Salvador, Nicaragua, and the Dominican Republic.

### NORTHERN WHITE CEDAR

Thuja occidentalis, Linnaeus

By G. H. COLLINGWOOD

IN COOL swamps, or beside streams or lakes from Nova Scotia and New Brunswick west to southeastern Manitoba, and from New England and New Jersey west to central Minnesota and southward through the Appalacian mountains, the narrow, pyramidal crowns and dense fronds of evergreen foliage of northern white cedar, or arbor vitae, make a familiar sight. Sometimes growing in pure, almost impenetrable stands, it also flourishes in company with spruce, larch, alder, and balsam. In moist fields and shallow, rocky pastures, it may grow in scattered picturesque clumps, the taller trees thrusting their

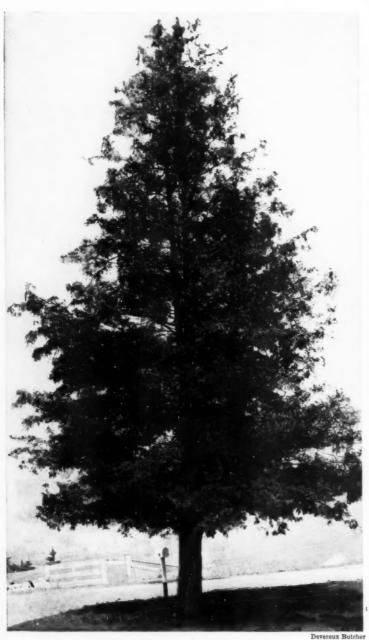
conical crowns above the center of the group, while smaller trees crowd close around the outer

Under favorable conditions in the north, this tree occasionally attains seventy feet in height and three to six feet in diameter. Ordinarily, however, northern white cedar trees are considered large when fifty to sixty feet tall with diameters of two to three feet. Southward, the tree becomes less abundant and smaller. so that in the mountains of western North Carolina and eastern Tennessee it is found only at high elevations and reduced to the proportions of a shrub.

A slow growing tree, most of whose wood is added during early years, it may reach ages of 250 to 300 years.

The smaller twigs and branchlets are so densely covered by scale-like leaves that they appear to be the leaves themselves. Actually, each dark green leaf is scarcely a quarter of an inch long, and with its fellows is arranged in overlapping rows of alternating pairs on the flattened branchlets. The under surface is light green, and when bruised gives off a tansy-like odor.

In April or May small livercolored flowers are borne on the ends of the branchlets, the two sexes being separate and distinct from one another. The solitary elongated staminate cones are about one-sixteenth of an inch long, entire, and composed of three to six pairs of stamens, while the purplish pistillate cones are similar in size and consist of four to six pairs of thin, elongated scales. By late summer the pistillate cones mature. They are a light yellow to cinnamon red from one-third to one-half inch long and stand erect on the twigs. The seeds which form beneath the scales are light brown about an eighth of an inch long and nearly en-



Northern white cedar has a shapely pyramidal crown of feathery dark green foliage

circled by thin wings as broad as the body. These help carry the seeds considerable distances by the wind, but the empty cones remain on the twigs through the winter.

The trunk may be lobed and buttressed at the base, tapering and often divided into two or more secondary stems. It is frequently distorted and twisted; similarly the thin fibrous light brown bark may seem to spiral around the trunk. It is a quarter to a third of an inch thick. On the larger branches the bark is dark orange marked with shallow fissures.

The wood of northern white cedar, or arbor vitae, is pale yellow-brown, aromatic, soft, brittle, coarse grained, and durable in contact with the soil. A cubic foot when air dry weighs about nineteen pounds. Surrounding the heartwood is a thin layer of nearly white sapwood. The wood is easy to work and has little tendency to shrink or warp. It splits easily, and the annual growth rings will separate from one another when the wood is pounded. This quality permitted the Indians to separate thin splints for use as canoe ribs. The same feature, however, reduces the value of this wood for many modern purposes and is characterized in many trees as "ring shake" or "wind shake." Because of its durability in contact with the soil and moisture, it is used for shingles, railroad ties, poles, fence posts, buckets, stave cooperage, tanks, cisterns, boats, and canoe frames. Because of its light weight as well as durability, it is also used for fish net floats and imitation minnows for fishermen. An aromatic oil is distilled from the leaves and twigs which is sometimes used to relieve chest colds and for other medicinal purposes.

Thuja occidentalis is not a true cedar, but is more strictly speaking an arbor vitae. Thuja is a Latin name for a conifer tree, while occidentalis refers to the fact that it is native to the western hemisphere and thereby distinct from the oriental cedar. There are seven species of Thuja-two native in North America, and the others in China, Japan, and Formosa. American Indians referred to this tree as Oo-soo-ha-tah, meaning, "feather leaf."

Northern white cedar was once of great importance in the Lake States, but those stands of saw-timber are now reduced to an estimated 157,000,000 board feet. In New England the stand is estimated to contain 1,826,000,000 board feet, most of which is in Maine. Some 31,000,000 board feet are scattered through the Middle Atlantic States with the bulk in New York. On the basis of these figures the present stand of northern white cedar saw-timber has been estimated as something in excess of 2,000,000,000 board feet. During recent years the average annual cut has been less than 5,000,000 board feet.

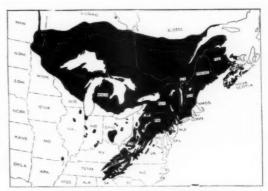
This tree begins to bear seed when ten to fifteen years old. Seed producing years follow frequently thereafter. The seed germinate readily and may take root wherever the moist soil is exposed. Because of its trim, somewhat artificial appearance, it is frequently used for hedges and windbreaks. It is also planted for ornamental purposes on lawns and in parks. Nursery men recognize some forty-five varieties of northern white cedar, all of which are propagated by means of cuttings rather than from seed. Small trees are also easily raised from seed and lend themselves to successful transplanting. Best results are achieved in a seed bed containing considerable peat, but partial shade must be provided. Except as protected naturally by its moist environment, it is easily injured by ground fires, but has few serious insect or fungus enemies.



The small scale-like leaves are in overlapping rows on the branchlets. The cones are urn shaped and grow erect near the ends of the leafy twigs



Deep fissures break the thin orange-brown bark into narrow, interlacing ridges



Natural range of Northern White Cedar

### Committee Nominates 1941 Officers of The American Forestry Association

The Committee on Elections, appointed by the Board of Directors of The American Forestry Association to nominate officers of the Association for the ensuing year, has submitted its list of nominations as printed below. These nominations, together with any made by the membership, will be submitted to all members of the Association for letter ballot during the month of December:

The Committee's full slate of nominations follows:

For President: W. S. Rosecrans, Los

Angeles, California.

For Directors: (Five-year term) James
G. K. McClure, North Carolina, President,
Farmers' Federation; John W. Watzek,
Jr., Illinois, National Lumber Manufacturers' Association; C. P. Wilber, New
Jersey, Director, Department of Conser-

vation and Development.

For Treasurer: George O. Vass, District
of Columbia, Vice-President, Riggs Na-

tional Bank.

For Vice-Presidents: David A. Aylward, Massachusetts, President, National Wildlife Federation; J. H. Allen, Georgia, President, Southern Pulpwood Conservation Association; David Beals, Missouri, Vice-President, the Inter-State National Bank; Homer Chaillaux, Indiana, Director, Americanism Commission, the American Legion; Frederick P. Champ, Utah, President, Cache Valley Banking Company; Mrs. Saidie Orr Dunbar, District of Columbia, President, General Federation of Women's Clubs; Tom Gill, District of Columbia, Secretary, Charles Lathrop Pack Forestry Foundation; Tappan Gregory, Illinois, President, Izaak Walton League of America; Dr. Charles E. Holzer, Ohio, President, Ohio Valley Flood Control Congress; Ed. J. Hughes, Oregon, President, Federation of Western Outdoor Clubs; George F. Jewett, Idaho, President, Western Forestry and Conservation Association; C. F. Korstian, North Carolina, President, Society of American Foresters; Irving H. Larom, Wyoming, President, Dude Ranchers' Association; Aldo Leopold, Wisconsin, Wilderness Society; Lessing J. Rosenwald, Pennsylvania, Chairman, The Rosenwald Fund; Mrs. Samuel Seabury, New York, President, Garden Club of America; James J. Storrow, Massachusetts, Society for the Protection of New Hampshire Forests; Francis D. Tappan, California, President, The Sierra Club; Mrs. Frederick A. Wallis, Kentucky, President, National Council of State Garden Clubs; H. W. Whited, Texas, President, Texas Forestry Association; John G. Winant, New Hampshire, National Recreation Association.

In view of the fact that James G. K. McClure, who has been president of the Association for four years, has asked to be relieved because of the pressure of business, the Committee on Elections this year had the task of nominating a successor. Mr. McClure, however, has consented to stand for election as a member of the Board. Mr. W. S. Rosecrans, whom the Committee has nominated for president, is a business man, rancher and civic leader of southern California. He has long been active in conservation, his interest in this field of public service dating back to 1916 when he helped to organize and became president of the Harbor District Chambers of Commerce, an associated group of commercial bodies which made flood control its primary project and took an active part in creating the Los Angeles County Flood Control District.

In 1923 Mr. Rosecrans became active

in promoting the prevention and control of mountain fires and as an officer of the Los Angeles County Farm Bureau was instrumental in creating a joint committee on fire prevention and suppression, out of which developed in 1925 the Conservation Association of Southern California, of which he is now president. He is also chairman of the Flood Control and Conservation Committee of the Los Angeles Chamber of Commerce, and has served as chairman of the Conservation Committee of the California Farm Bureau Federation.

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Mr. Rosecrans is a descendant of William Starke Rosecrans, a distinguished Brigadier General in the Civil War and later United States Minister to Mexico. If elected, Mr. Rosecrans will have the distinction of being the first West Coast citizen to serve as president of The American Forestry Association. His interest in natural resources covers the broad field of conservation and land use. "My own interest," he says, "has always been concerned with the soil and its maintenance. Both in our own state and country and in a number of foreign countries I have watched the results of erosion, and have seen thousands of instances showing how not alone agriculture has been impaired and living standards lowered, but examples of how civilization itself, in certain instances, has been entirely destroyed. It seems rather surprising in a way that the maintenance of life, the maintenance of standards of living, and the strength of nations depend in no small degree upon an humble conglomerate that we walk on and think of as something inert, when in reality it is a living force ready to serve us if conserved and treated properly, and ready to become of no use to us if we do not do our part."

### TREES AND THEIR USES-No. 54-NORTHERN WHITE CEDAR



# ACTION on the Blue Ridge Parkway by INTERNATIONAL Power

CONSTRUCTION of the famous Blue Ridge Parkway has marched ahead at top speed this year, thanks to International TracTracTors and International-powered equipment. When completed, this 480-mile long and 800-foot wide recreational area will link the Shenandoah National Park and the Great Smoky National Park. The 1940 program calls for 70 miles in Virginia and several miles in North Carolina.

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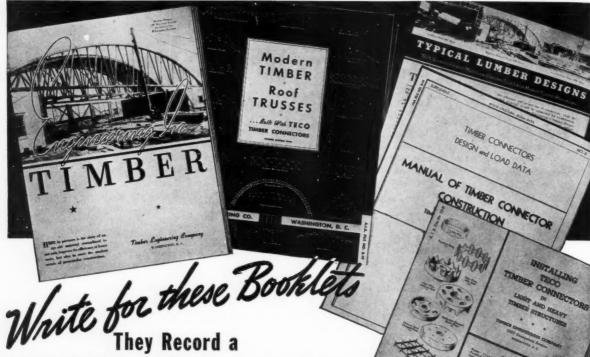
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#### **National Forest Fire Losses Decline**

WHAT foresters call an extraordinarily successful fire season has closed in the northern and western national forests, according to the Forest Service. Although the 1940 season started out in a fashion which indicated a bad year and a possible \$5,000,000 fire fighting cost, fire suppression expenses have so far been well under \$3,000,000.

The 16,036 fires reported for 1940, up to November 15, represent an increase of more than 2,000 over the corresponding period of 1939. Damage to national forests, however, amounts to only \$585,121, or thirty-eight per cent less than damage in 1939. Likewise, the 307,430 acres burned this year is 30,000 acres below the figures for last year.

Increased efficiency of men, equipment and methods, assistance rendered by the CCC, and good teamwork by the thousands of men participating in fire control, were given by the Forest Service as reasons for this favorable record.

The year's fortunate record to date was not due to lack of conditions favorable for fire outbreaks, however. The Northern Rocky Mountain Region of the Forest Service, with headquarters in Missoula. Montana, reached an all time high of 1,352 fires, mostly from lightning, in a single ten-day period, and the total of all fires reported by the Service to date this year is one-third greater than the average for the last five years.

The fire hazard in the southern and some of the eastern forests still remains high, the Forest Service says.

Man-caused fires are still on the increase. The 1940 season so far shows an increase of five per cent over the number of such fires both for the year 1939 and for the last five-year average. The increased number of fires from all causes in the current year is largely due to at-mospheric conditions over the timbered areas of the Northwest which produced intensive dry lightning storms.

Use of a limited number of parachute "smoke-jumpers" available this year as a result of an experimental project, indicated the possibility of substantial savings in the cost of controlling inaccessible fires. In four specific cases where other nearby fires furnished close comparison, the smoke-jumpers effected a saving of \$37,000 in fire suppression costs. After deducting the cost of their training and expense of operation and purchase of parachutes, the smoke-jumpers still produced a net saving of \$12,000 on those four fires

Smoke-jumping to forest fires in the back-country is the leading contribution of the current year to improved fire fighting methods and technique. With experiments started a year ago, the first smoke-jumper dropped down on a going fire in the Bitterroot National Forest, in Montana, on July 13. Fourteen parachute fire fighters, volunteers from the regular forest guard force, were trained for the work this year.

#### WHEN THE NATION CALLS . . .

Everyone Has a Job to Do!

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Pandora's Box—The Story of Conservation, by Marian E. Baer. Published by Farrar and Rinehart, Inc., New York City. Illustrated. 292 pages. Price \$2.00.

This story of conservation should be helpful in teaching the youngest generation the importance of preserving the country's natural resources. Its simplicity of text and informative line drawings make it easily understood and especially adaptable to the use of children.

The Management of Farm Woodlands, by Cedric H. Guise. Published by Me-Graw-Hill Book Company, New York City. 352 pages, ills. Price \$3.00.

One of the American Forestry Series, this book stresses practical applications in presenting the theory and practice of forestry. It has, as the title indicates, special reference to the handling and utilization of farm woodlands. The author, who is one of the faculty of the New York State College of Agriculture at Cornell University, discusses in a broad and comprehensive way the economic, biologic and technical relationships between growing and harvesting farm woodlands for continuous production.

An American Grazier Goes Abroad, by Marvin Klemme. Published by The Desertt News Press, Salt Lake City, Utah, 352 pages, ills. Price, \$2.50.

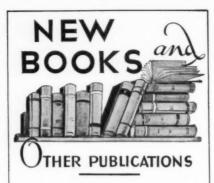
This volume of 352 pages and illustrated with actual photographs is the result of a year's travel which took the author into the highways and byways of more than thirty foreign countries. It is a fresh, simply written chronicle of observations of rural life made just before and in part during the beginning of the present war. In spite of hardships and difficulty, the author in his travels succeeded in getting into out of the way places in order to get a true picture of the lives, customs and land practices of the people visited. His observations were directed primarily to range management, forestry and general agricultural practices, but in dealing with these subjects he gives the readers a cross section of rural life in general.

A forester by training and an American grazier by experience, Mr. Klemme's book is a distinct contribution to American literature of land use. In point of interest, easy reading and information, there is nothing quite like it. While of special interest to the grazier and agriculturist, the layman will find it delightful

and profitable reading.

EYES IN THE NIGHT, by Tappan Gregory. Published by Thomas Y. Crowell Co., New York. 243 pages, ills. Price, \$3.50.

Here is a fascinating book for anyone at all interested in wildlife or in photography—for here Tappan Gregory, who needs no introduction in the field of wildlife photography, has combined his love of nature with his rare photographic talent. Fifty of his outstanding subjects are



A list of Selected Books on Forestry and related fields of Conservation is available to members of The American Forestry Association on request.

reproduced in "Eyes in the Night," which is written with contagious charm. Whether your interest runs to backyard fauna, rodents and rabbits, the smaller carnivores, black bear and deer, timber wolves, or mountain lions—they are all here.

The Garden in Color, by Louise Beebe Wilder. Published by The Macmillan Company, New York City. 327 pages, ills. Price, \$2.95.

This beautiful book, illustrated with 320 natural color photographs, is not to be overlooked as an addition to the gardener's library. Spring gardens misty with the soft colors of crocuses, primroses and green leaves appearing; summer gardens splashed with poppies, marigolds, roses, and delphinium; fall gardens with the deep haze of dahlias and hardy asters; and finally the Christmas rose planted for the winter garden are but a few of the descriptions brought graphically before the reader. And along with the beauty on these pages, Mrs. Wilder offers the practical gardener helpful information and interesting ideas for the planting of seasonal gardens.

RAIN OR SHINE—The Story of Weather, by Marion E. Baer. Published by Farrar & Rinehart, Inc., New York. 292 pages, ills. Price \$2.00.

So important is the subject of the weather to each of us, that never a newspaper appears without some report on it. And it is refreshingly and directly handled here—its normal and abnormal demonstrations, as exemplified in the steady scientific work of the weather man, revealing how the weather should act, and why; and in the cataclysmic interruptions to its normal course such as blizzards in Florida and hurricanes in New England—and what operates to bring these terrifying things about. It is a book full of interest for everyone.

The publications listed below must be ordered direct from the addresses as given and not through the Association. De

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Forest Resources of Wayne County, Ohio. By Emmet A. Conway. Official Proj. 665-42-3-198, Ohio W.P.A., Ohio Agr. Expt. Sta., For. Pub. 65, Wooster, Ohio.

Flora of the Patuxent Research Refuge, Maryland. By Neil Hotchkiss. Wildlife Leaflet BS-154, U. S. Dept. of Interior, Wash., D. C.

Naval Stores — Gamble's International Yearbook for 1940-41. Published by Thomas Gamble, Savannah, Ga.

The Great Horned Owl and Its Prey in North-Central United States, by Paul L. Errington, Frances Hamerstrom and F. N. Hamerstrom, Jr. Research Bulletin 277, Iowa State Col. of Agr., Ames, Iowa.

The Little-Leaf Disease of Shortleaf Pines, by Paul V. Siggers and K. D. Doak. Occasional Paper 95, Sou. For. Expt. Sta., New Orleans, La.

Early Survival of Cottonwood and Hybrid Poplar Plantations at Stoneville, Mississippi, by Henry Bull and J. A. Putnam. Occasional Paper 94, Sou. For. Expt. Sta., New Orleans, La.

Forests and Human Welfare. Tennessee Valley Authority and cooperators. Supt. of Doc., Govt. Printing Office, Wash.,

D. C.

Conserving Farm Lands, by Tom Dale and W. A. Ross, U. S. Office of Education, Int. Dept., Voc. Div. Bull. 201, Agr. Series No. 53. Supt. of Docs., Wash., D. C. Price 30 cents.

Teaching Conservation in Elementary Schools, by Effie G. Bathurst. U. S. Office of Education, Bull. 1938, No. 14. Supt. of Does., Wash., D. C. Price 20 cents.

Departments of Forester, Fire Warden and Parks, County of Los Angeles, June 30, 1940, Annual Reports. Hall of Records, Los Angeles, Calif.

Revegetating Semidesert Range Lands in the Southwest, by John T. Cassady and George E. Glendening. Civ. Cons. Corps Forestry Publication No. 8. Supt. of Does., Wash., D. C. Price 10 centred

Forest Resources of North Central Alabama, by James W. Cruikshank. Forest Survey No. 50. Sou. For. Expt. Sta., New Orleans, La.

A Living Link in History, by John C. Merriam. Save-the-Redwoods League, 219 California Hall, University of California, Berkeley, Calif. Price 10 cents.

Trees, Shrubs and Flowers of the Redwood Region, by Willis L. Jepson. Save-the-Redwoods League, 219 California Hall, University of California, Berkeley, Calif. Price 10 cents.

The Story Told by a Fallen Redwood, by Emanuel Fritz. Save-the-Redwoods League, 219 California Hall, University of California, Berkeley, Calif. Price 10 cents.

Redwoods of the Past, by Ralph W. Chaney. Save-the-Redwoods League, 219 California Hall, University of California, Berkeley, Calif. Price 10 cents.

#### **Tionesta Forest Formally Set Aside**

By A. F. HOUGH

LOVERS of nature and those interested in preserving the rapidly vanishing areas of virgin forest in the East will welcome the news that 4,131 acres of original hemlock-hardwood forest, purchased in 1934 by the federal government for inclusion within the Allegheny National Forest in northwestern Pennsylvania, has been formally set aside by the Forest Service for scientific use and for the education and enjoyment of the public. The purchase of this forest was advocated by far-seeing conservationists and foresters and vigorously promoted by the Pennsylvania Forestry Association and the late Chief Forester, F. A. Silcox. It is virtually the last large example of its type in the East and also the largest compact body of virgin timber between the Adirondacks and the Great Smoky Mountains.

This forest is located between the east and south branches of Tionesta Creek, a tributary of the Allegheny River, about seven miles south of Ludlow, Pennsylvania. Its purchase is an important forward step in the Forest Service program of preserving natural areas characteristic of native forest and range vegetation in all regions of the United States.

In its administration of this area the Forest Service recognizes two major obligations. First, to preserve the native plant and animal life in its natural state in so far as this can be done on an area of this size, and second, to allow the public to enjoy its unique qualities without jeopardizing their perpetuation. For this reason the area is divided into two parts; the northern portion, consisting of acres, is designated as the Tionesta Scenic Area and will be made accessible to the public by road and foot trails. Here the inspiration and true recreation to be found in a fairly large area of primeval forest may be enjoyed amid towering hemlock 300 to 500 years old and veteran beech 350 years of age.

The southern portion, consisting of 2,-113 acres, is designated as the Tionesta Natural Area, and is dedicated primarily to scientific research. This area is admirably suited for studying the development of the climax type, the natural rejuvenation that results in the perpetuation of the climax, and the response of the climax forest to climatic and biologic cycles. It is equally valuable for studying how completely the virgin forest supplies the life needs of the various animals found therein, and of how the forest with its multitude of different plant and animal forms influences the local climate, the soil, and the regimen of streams.

#### AN AMERICAN GRAZIER GOES ABROAD

BY MARVIN KLEMME

Formerly Forest Ranger, U. S. Forest Service, and Regional Grazier, U. S. Division of Grazing.



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This book is a chronicle of observations made by the author during 1939 in over 30 foreign countries. He left San Francisco in December, 1938, and sailed to the Hawaiian Islands. From there he went to New Zealand, Australia, the Philippine Islands, China, Japan, Manchoukuo, Siberia, Russia and most of the countries of Europe. The author was in Europe about two months after war broke out.

In this book the author describes many of the practices found in regard to forestry, range management, pasture development, wildlife and general agricultural and rural conditions in over 30 foreign countries. No particular attempt has been made to present this material in formal academic terms but rather the author has adopted a free and easy style that will appeal to the average reader.

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This Christmas with each new gift subscription to AMERICAN FORESTS we will send to the recipient, or to yourself, a free copy of KNOWING YOUR TREES, by G. H. Collingwood. This tree identification book has become an Association "best seller." It contains actual photographs of each tree—of the full tree, and of the leaf, bark, flower, and fruit. In addition to these really outstanding photographs, it contains 500-word descriptions of fifty of our best known American trees—the natural range, commercial uses, and identifying characteristics peculiar to each tree.

All persons who enjoy the out-of-doors will find this book an excellent companion, either on their woodland walks, or in their library.

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#### "Keep Washington Green" Campaign Effective

THE INTENSIVE forest fire prevention campaign conducted this summer in the State of Washington by forest owners and operators and forest products manufacturers in cooperation with the State Division of Forestry, has produced outstanding results, according to T. S. Goodyear, state supervisor of forestry.

In a letter to sponsors of the campaign, Mr. Goodyear, late in October, stated: "It is difficult to estimate actual dividends in dollars and cents resulting from the intensive forest fire prevention campaign, since a large percentage of the benefits will be realized in future years. However, it is notably reflected in the marked reduction of acreage burned and nominal property loss and damage from fires set by smokers, campers, berry pickers, hunters and fishermen" — the people the campaign was designed to reach.

Mr. Goodyear's statement revealed that in 1939 the total area burned in Washington from this class of fires was 20,716 acres and the property loss \$27,252. In 1940, when the campaign was conducted, the acreage burned was reduced to 5,726 and the damage to \$1,835, or less than one per cent of the total loss and property damage for the state. The total number of fires from all causes in 1939 was 1,516 and there were 1,870 fires for 1940. However, he points out, the total acreage burned was reduced from 103,139 in 1939 to 40,633 during 1940, and the average area burned per fire was cut from sixtyeight to slightly less than twenty-two acres.

Under the direction of Stewart H. Holbrook, former logger and well known author, this fire prevention campaign was the first cooperative effort of its kind ever undertaken. Launched with an official proclamation by Governor Clarence D. Martin urging all citizens to rally under the slogan KEEP WASHINGTON GREEN, the "total war on forest fire" was waged through the press, over the radio, and in club rooms throughout the state.

The press publicized fire prevention information prepared by Mr. Holbrook, who also conducted radio broadcasts and made personal appearances before commercial and public service organizations. Sportsmen's associations, American Legion posts and the 4-H Clubs cooperated, along with telephone, electric, oil and radio companies and publishers in a united effort to prevent carelessly set forest fires. Many of these organizations, it was stated, and their individual representatives were helpful in reporting or relaying reports of fires to the proper forestry officials.

Although financed by the forest industry of the state, the campaign was supervised by the Division of Forestry, of the State Department of Conservation and Development. Mr. Holbrook was in direct charge of the campaign.

#### FEDERAL NEWS AND REVIEWS

More than half of the nation's forest fires, nearly ninety per cent of the area burned, and three-fourths of the damage are reported on twenty-six per cent of United States forest land which still lacks organized protection, according to the Forest Service.

Out of 585,422,000 acres of forest land needing it, the Service reports that 152,-167,000 acres are still without organized fire protection. More than seventeen percent of that area was burned over in 1939, while less than one per cent of the protected area suffered fire damage. Officials say that much of the area now under protection still lacks adequate forces and facilities, and that cost of adequate fire protection would amount to only a few cents an acre a year in most areas.

#### Million Duck Hunters

More than a million sportsmen will hunt wild ducks and geese this year, the Fish and Wildlife Serice of the Department of the Interior predicts. It bases its estimate on reports just compiled of migratory-waterfowl hunting stamp sales last year. During the 1939 season 1,111,561 hunters purchased the \$1 "duck" stamps that must be carried by all migratory-waterfowl hunters over sixteen years old.

This is the fifth consecutive year that the number of hunters has increased, Service officials said. In the 1938 season, 1,002,715 stamps were sold. More than 4,500,000 "duck" stamps have been sold since 1934, when the first issue was released.

The big-ten of the migratory-water-fowl hunting world last season was headed by Minnesota, where 120,034 stamps were sold. Others in the duck hunters' big-ten were: Michigan, 86,064; Wisconsin, 84,075; California, 74,644; Illinois, 66,434; Texas, 63,460; Washington, 50,796; Iowa, 39,143; Louisiana, 33,870; and New York, 32,304.

#### Disease Checks Spruce Sawfly

An insect disease this year checked the inroads of the European spruce sawfly, an insect immigrant from northern and central Europe that has been defoliating spruce forests in New England for the last five years. Entomologists of the Department of Agriculture, who recently scouted the northeastern woods, report that an infection has almost wiped out the needle eating worms in southern Vermont and southern New Hampshire. Practically no live sawfly worms were found in Maine in September, but it is pointed out that adult sawflies may not come out from their cocoons there for two or three or even four years.

In a few stands of virgin spruce on mountain tops and on young trees in plantations, where the survey showed little if any disease among the insects,

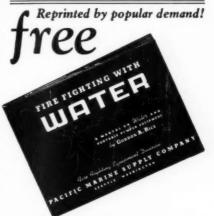
there was a marked increase in sawfly numbers. The mountain tops where sawflies have multiplied include Cornell Mountain in the Catskills of New York, Green Peak and Mt. Equinox in southern Vermont, and Deer Mountain in Pittsburg, New Hampshire.

The exact nature of the sawfly disease is not known, nor has it yet been named. It attacks the fly in its larval stage and has about the same effect as wilt diseases of other insect larvae. An infected worm rapidly loses its normal green color, changing first to yellowish green and then to black, and soon disintegrates.

#### New Office of Land Utilization

Secretary of the Interior Harold L. Ickes has announced the establishment of an Office of Land Utilization to administer soil and moisture conservation activities transferred to the Department of the Interior from the Department of Agriculture under the President's Reorganization Plan No. IV.

Lee Muck, formerly director of forests for the Department of the Interior, was designated by the Secretary as assistant in charge of land utilization to be in charge of the soil conservation program.



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Members of the Association are entitled to a 10% discount on practically any book published, including fiction and biography, with the exception of a few textbooks. Take advantage of your membership in ordering books for your own use, and for Gifts during the coming Christmas Season.

A few recommended books on forestry and outdoor subjects are listed herewith. Prices quoted are not guaranteed, but to the best of our knowledge are correct. A more complete list of approximately 200 books will be mailed to you on request.

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Allen, Shirley W. INTRODUCTION TO AMERICAN FORESTRY		
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Seton, Ernest Thompson	S FIELD MANUAL	1.30
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The program will be carried out on the public lands under the jurisdiction of the department.

Reorganization Plan No. IV became effective June 30, by act of Congress. It provided that those phases of soil and moisture conservation hitherto carried out on public lands under the Department of the Interior by the Department of Agriculture, in connection with its general soil conservation program, be transferred to the Department of the Interior.

The former functions of the director of forests, in charge of coordinating forestry practices within the Department of the Interior, will be continued by the new Office of Land Utilization. It is contemplated that a Division of Forests will be established within the unit to relate conservation practices in the 130,300,000 acres of forests under the jurisdiction of the department to the soil and moisture practices on the public lands. These lands embrace the general public domain, grazing districts, Indian lands and other huge public holdings located principally in the western states.

#### Trumpeter Swans Increase

There are now at least 212 trumpeter swans in the United States. The birds, largest migratory waterfowl in North America, which were once thought to be extinct, are concentrated on the Red Rock Lakes National Wildlife Refuge, Montana, and in Yellowstone National Park.

An estimate conducted by the federal Fish and Wildlife Service and the National Park Service shows that there are at least 128 trumpeters on the Red Rock Lakes Refuge and adjacent lakes, and about seventy-eight in Yellowstone Park.

In all, there were 133 adults and seventy-nine cygnets: seventy-four adults and fifty-four cygnets were seen on or near the refuge, fifty-three adults and twenty-five cygnets were estimated to be in the park; three adults were on the Malheur National Wildlife Refuge, Oregon, and three on the National Elk Refuge, Wyoming.

#### New Park Attendance Record

Breaking all previous attendance records, the number of visitors to the national parks and monuments of the United States totalled 16,741,855 men, women and children during the 1940 travel year which ended on September 30, according to Newton B. Drury, director of the National Park Service. One out of every eight persons in the country visited some unit of the federal park system in the twelve-month period, thus establishing an attendance record representing an increase of more than 400 per cent during the seven years since 1933, more than a million larger than last year, and a half-million greater than the previous peak year of 1938.

In the 1940 "most-visited park" classification, Shenandoah in Virginia, the Great Smoky Mountains in Tennessee and North Carolina, and Rocky Mountain in Colorado came in one-two-three

#### AROUND THE STATES

M. E. Brashears, assistant forester for the Texas Forest Service, early in September was named state forester and director of the Division of Forestry, Department of Conservation, for Louisiana, succeeding V. H. Sonderegger.

A native of Louisiana, and a graduate of the Louisiana State University School of Forestry, Mr. Brashears served with the United States Forest Service in acquisition work in Arkansas, Alabama and North Carolina from 1933 to 1935.

At its annual meeting in October, the Association of State Foresters elected as its president for 1941 C. L. Harrington, Superintendent of State Forests for Wisconsin. He succeeds O. A. Alderman, state forester of Ohio.

#### New Weyerhaeuser Forester

From the West early in November came announcement that Clyde Martin, head of the Forest Conservation Department of the Western Pine Association, had been appointed chief forester for the Weyerhaeuser Timber Company, filling the vacancy created by the death of C. S. Chapman earlier this year.

Succeeding Mr. Martin at the Western Pine Association is Stuart Moir, acting director of soil conservation in the Department of the Interior.

#### Michigan Land Conference

Michigan timberland owners and wood users meeting at the annual Land Utilization Conference at the University of Michigan early in November continued their tradition of planting a tree in honor of a president of the University.

State Senator George P. McCallum, general chairman of the meeting, made the 1940 presentation of an elm tree which was planted near the Michigan Union building in honor of Erastus O. Haven, president of the University of Michigan from 1863 to 1869.

Three general topics were discussed at the two-day parley. The School of Forestry and Conservation's program of training students for places in the timber industry was presented by Dean Samuel T. Dana and other faculty members. Dean Emeritus Henry M. Bates, of the University of Michigan Law School, talked on government and business. This topic with special emphasis on the application and operation of such social legislation as social security in relation to the timber industries was also discussed by University Regent J. Joseph Herbert.

#### Florida Timber Association

A timber growers' association was recently organized at a meeting held in Jacksonville, Florida, and attended by land owners from the naval stores belt.

W. M. Oettmeier, of the Superior Pines Products Company of Fargo, Geor-

gia, was elected temporary chairman. He selected a committee to draw up plans and by-laws for the new association to be presented for general discussion at a meeting to be held early in December.

The association is being formed to promote the interest of timber land owners in utilization, cutting practice, forest legislation and cooperation with state and federal forest departments in fire protection, also, to encourage forest and wildlife conservation and to promote new wood using industries.

#### Western Forestry Meeting

The 31st annual meeting of the Western Forestry and Conservation Association will be held in Portland, Oregon, December 12, 13 and 14. Current forest protection and utilization problems that call for cooperation by private, state and federal government agencies in the Pacific Northwest are to be discussed. Lumbermen's and timbermen's organizations will attend the meeting representing private forestry enterprise in California, Oregon, Washington, Idaho and Montana. Also attending will be officials of state forest and land departments and of the federal government agencies.

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#### THEY HAVE CHARACTER

By J. J. LEVISON, M.F.



WE SEE TREES everywhere, all the time. We see them so much and so often that we no longer pay attention to them as individuals. We see them merged in groups like soldiers on the march, as individuals of one pattern doing the same thing and looking almost alike. Yet trees, like soldiers, are individuals. Every soldier in the marching line, though imbued with the same ultimate goal, nevertheless thinks differently and possesses traits, backgrounds, hopes and ambitions entirely unique to himself. So do trees. Each tree has a character and individuality all its own. To understand and appreciate the tree, we must look at it as an individual and not in mass.

Trees show character and individuality in being able to overcome the many difficulties that they have to contend with during their lifetime — lack of water, food and pure air; extreme cold or heat; storm, fire, snow, injurious insects, disease and sometimes even injury from man and beast. They conquer these destructive forces and reach ages from ten to fifty times as long as man.

How many of us who studied botany in school were made to feel that trees are objects that live and feel and in many ways behave as we do? Many of us, because we see trees bunched together in the forest, are under the impression that they are alike, all of the same form, height and spread. This does not mean that they have lost their identity as individuals, for even in the forest they grow uniformly together only because they are sacrificing their individuality for mutual benefit.

But a tree in the open will express almost as much individuality as a human being. It will put out branches and assume certain forms which will distinguish it not only from all other types of trees but from members of its own family. Its likes and dislikes will become so distinct and consistent that the relationship be-

tween trees and humans becomes quite pronounced.

It is unfortunate that at school we have been taught to recognize trees in an academic way by some insignificant character clothed in pretentious Latin names, which though scientific and necessary, are nevertheless most discouraging to the lay student. With discouragement, the student begins to hate a most fascinating subject

that he could have loved and enjoyed for the rest of his life.

The trouble lies not with the trees but with the method of approach. We present the subject to the beginner as a dead one of pure science instead of a subject full of life, color, philosophy and art. We should use the same method of approach in the study of trees as we do in the study of people. When we meet a person for the first time, our most outstanding impression is not his name, his finger prints, or some minute physical characteristic. On the contrary, we are rather impressed by his personality, by his achievements and by his most pronounced physical features, which mark him at first sight as an individual. Such characterization is more interesting and consequently more impressive and lasting. The same applies to trees. Trees have similar personality expressed in a different way. We can tell an American elm much more readily by its unique, fan-shaped crown than by the shape of its leaf which looks so much like the leaves of other trees. If we can tell the tree at a glance both at close proximity and at a distance by its form, why bother about the shape of the leaf which



Unmistakable are the delicate characteristics of the willow by the river's edge

is confusing and seasonal? As beginners who are just getting acquainted with the elm, why be burdened with details in which we are not yet interested? Let us first get to know the elm and in due time. as our friendship grows, we will want to know more about his family traits and the details will then no longer be a burden to us. So it is with most other trees. there anything more characteristic than the tall, slender form of the Lombardy poplar, which is a broad-leaved tree, or that similarly slender cone-shaped evergreen, the cedar, with its needle-shaped pointed leaves? The arbor vitae has the general conical form of the cedar, but differs from it in possessing branchlets that are extremely flat and fan-like.

Is there anything more distinguishing than the smooth pure white bark and tall trunk of the paper birch, or the golden flaky bark of the yellow birch? Do we need more conspicuous characterization of the sycamore, or plane tree, than its greenish-gray mottled bark? — or of the hornbeam, often called blue beech, with its fluted, twisted smooth trunk that looks like the muscle of a prize fighter? — or of the hackberry with its bark studded with numerous corky warts?

Do we need to go further in getting acquainted with the pines than to know that the white pine at close range has five needles to the cluster, and that at a distance an older white pine can be told by the right angles which its branches form with the main trunk? The three needles of the pitch pine and its rough, gnarly looking branches studded with old cones throughout the year will easily distinguish that tree from other pines. The two bluish, short needles of the Scotch pine, along with its reddish bark, will tell it apart from the red pine, which has much longer and straighter needles.

Who can mistake the drooping form of the weeping willow and the weeping beech? In some cases, the most conspicuous distinguishing trait may be some small part of the tree, like the large spiny thorns on the bark of the honey locust or the smaller spines on the twigs of the hawthornes. Or it may be the peculiar shape of the bud, like the long, slender, sharp-pointed bud of the beech tree, or the bud of the magnolia which is covered with small, silvery, silky hairs.

Trees in winter show their characteristic forms even better than in summer. The gnarly twists and kinks in the branches of the sassafras are so distinctive that no one can mistake them. The spreading, sturdy branches of the white oak, the formal cone shape of the pin oak, the uniform, oval shape of the sugar maple, the rounder form of the Norway maple, and the looser form of the red maple with its characteristic smooth gray bark, resembling the beech but differing from that tree in many other ways, are characterizations so distinctive that they cannot be confused.

Trees also express their individuality by their variation in color throughout the year. We can tell them by the coloring of their flowers, by the variations in the green coloring of their foliage, by the autumnal tints of their leaves, by the difference in the color of their bark, and by

the coloring of their berries when the foliage has dropped.

Trees are very fastidious in their individual preferences for soil, light and other requirements. The gratification of these requirements, or the lack of them, greatly influences their form and character in the same way as humans are influenced in their physical and mental growth by their environmental requirements.

Trees, for instance, depend upon their soil, moisture and atmospheric conditions for growth and development. A tree growing in deep, rich soil will reach a greater height than a tree of the same species growing in shallow, sandy soil. This need for soil and water explains why we must cultivate and water trees growing under artificial conditions such as city streets and lawns. It explains why trees dry out more readily when they are over-pruned. It explains why too much cutting out in woodlands leaves the trees suddenly exposed to the drying effects of increased sunlight and wind which they cannot meet without an extra quantity of moisture from the soil. Excessive cutting out in woodlands also causes the soil itself to dry and the trees to suffer from the consequent lack of moisture. This explains why it is essential in wooded areas to retain all fallen leaves and all small shrubs. In decomposing and mixing with the soil, the fallen leaves not only supply the trees with food material but also tend to conserve moisture in the ground. Raking off the leaves and burning the brush in wooded areas, a practice often met with in parks and on private estates, hurts the trees seriously.

The form of the tree will frequently be influenced by the amount of light it receives, and also the direction from which the light comes. This is why trees grown in the open have wide spreading crowns with branches close to the ground, while the same species growing in the forest produce tall, lanky trees with branches only at the top. Some trees will endure more shade than others, but all will grow in full light. This explains why trees like the beech, hemlock, sugar maple, spruce, holly and dogwood will grow in shade while the pine, poplar, and birch must have light. The influence of light on the form of trees should be well understood

by all who plant them.

Trees show individuality by their ingenious ways of protecting buds against winter injury, by their instinctive methods of obtaining food, light and moisture, and by their varied ways of seed dis-semination. Their flowers, which are their means of reproduction, may be the beginning of some giant tree, the same as some human may be the source of some giant mind, a Lincoln, or a Shakespeare. What an interesting relationship this is between humans and trees.

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#### **Naval Stores Program**

A PROGRAM for 1941 which continues naval stores conservation as a part of the general Agricultural Conservation Program has been approved, the Agricultural Adjustment Administration announced November 5.

Objectives of the program are conservation of timber resources and prevention of their uneconomic use and wasteful exploitation, through the adoption of approved turpentining practices including better fire protection and better cutting practices. Participation in the program is open to gum naval stores—turpentine and rosin—farmers in North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana and Texas. Payments may be earned by working only the larger trees and protecting the growth of pines by accepted conservation methods.

Protective measures include the provision that producers not work trees under nine inches in diameter and that only one face be worked during the 1941 season on trees less than fourteen inches in diameter at breast height. No payment will be made for faces measuring more than ninety inches in height at the beginning of the 1941 season, whether these are worked or removed from operation.

On the basis of participation by naval stores farmers representing eighty per cent of the total production, payments are expected to total approximately \$1,500,000 for the 1941 program.

#### "One Year Later"

The following, written by Elizabeth Howe in the Black Hills (S. D.) Weekly of September 20, is so vivid, so significant, that it is republished here for the benefit of the readers of American Forests. It concerns the McVey Burn in the Black Hills National Forest of South Dakota.

Track it up a cloudburst's path. A washed out road, almost impassable in places. Slime over the rocks. Roots and twisted branches and driftwood stacked seven feet high. Rocks, boulders, thrown across the canyon. The stream that tore down Jenny gulch, now dried except for a few pools which bob up from underground, duck back through again, reached and roared from bank to bank just two weeks ago. A sight it must have been. There's nothing left on the watersheds above to hold water any more.

Once you enter the burn, you're there for miles and miles. The top of the hills washed down to bare rock. The trees, stark black, stuck into the ground like rows of burned matches. Soundlessness. A thin undertone, the note of a cricket. No birds or little animals, just quiet and a noise that might be the wind in leafless branches but sounds like the steady gnawing of hungry worms.

The little islands-not many in this

burn-that the fire skipped and that send up lonely greenness. Places where the crown fire burned so fast that the pineneedles still carpet the ground, unscorched. Spots where the fire passed lightly, so the pine-needles are still on the branches, singed and brown, but not blazed away.

The green weeds of a new year's growth, few and stubborn, but live where there is no other. A clump of delicate blue harebells. The living blue of the mountains beyond, the Harney range, raw and bold, the round blue hills to the west. But you are surrounded by the sight of death and its quiet, so the hills beyond are not real but only the rows of blackened tree-skulls, and leafless still white birch. The sunset behind the black trees is red and wild, the darkness gathering around them like final night.

#### President Approves Upstream Flood Control Project

PRESIDENT ROOSEVELT on September 28 approved a Department of Agriculture plan of upstream flood control work on the watershed of the Los Angeles River, California. This is the first project to receive approval under the Flood Control Act of 1936, which authorized the Department to engage in water control work on the watersheds of approved flood control projects. The intervening time has been spent by the Department in studying various key watersheds in different sections of the country and in preparing reports.

Under the 1936 act, Congress made available an initial amount of \$7,000,000 for upstream conservation work, \$3,000,000 of which was for examinations and \$4,000,-000 was for the prosecution of work designed to control and conserve water at its stream sources. The Los Angeles River project just approved calls for an expenditure over the next ten years of \$8,400,-000 by the Department of Agriculture. Of this amount \$1,848,000 is expendable only if cooperation to an equal value is provided by local state and county agencies in control measures on non-federal lands.

As approved by the President, actual work under the project cannot be started until cooperative agreements with local agencies have been entered into. These are now being negotiated. Two areas have been selected for initiation of control measures - the Arroyo-Seco watershed in the Los Angeles National Forest and an agricultural area in the San Fernando valley. Both units approximate about thirty sections in area. The Arroyo-Seco is typical of the mountain area forming the watershed of the Los Angeles River and presents water problems common to the upper watershed as a whole.

Federal funds for immediate work have been limited by the President for the time being to \$1,410,000, of which \$1,180,000 is available for the Arroyo-Seco unit and \$230,000 for the San Fernando unit. In the Arroyo-Seco, the Department estimates that \$250,000 will be needed for fire control, \$60,000 for forest cover improvement, \$169,800 for road improvement, \$690,700 for mountain channel improvement and \$9,500 for farm land improvement. These expenditures are conditional upon the state and county expending \$78,800 for road improvement, \$11,-000 for fire control and \$2,600 for mountain channel improvement. Federal funds approved for the San Fernando valley unit approximate \$230,000 to be used in measures designed to improve privately owned farm lands. Control work on these two units, it is anticipated, should be completed within a period of two years.

In selecting the watershed of the Los Angeles River for its first practical undertaking in upstream watershed control the Department gives recognition to southern California as one of the most important and critical flood control areas in the United States. The Los Angeles River drainage area is one of three contiguous watersheds embracing 4,000 square miles and supplying water to one of the most densely populated rural and urban sections of the country. Characterized by steep and rugged canyons and subject to brush fires, these watersheds at the same time are high flood hazards to the lives of the people and the tremendous property values of the region. In considering the \$8,400,000 program of upstream water control by the federal government on the Los Angeles River watershed, the Department estimates that operation, maintenance and replacement of installed works will average approximately \$500,000 annually. As approved by the President the plan provides that \$266,000 of such expenditures will be made from federal flood control funds and that the remainder is to be provided by local agencies and farmers. Taking a long-time view of the project, the Department estimates that installation of its program will yield benefits val-ued at \$42,033,000, and that costs over a fifty year period including maintenance, operation, etc., will amount to \$22,781,000, a ratio of \$1.85 in benefits to each dollar of cost.

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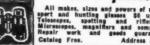
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# Barrington Moore Writes from England



An American forester in England for the past nine years, Barrington Moore, well known in this country, has written the Editor an interesting letter about his life under the bombs. "The police surveillance of aliens, even from friendly countries," he says, "is very strict, as it should be. The enormous number of refugees that Hitler has driven out give him a wonderful opportunity for getting his spies into the country, so probably there are plenty about. There is, however, no spy mania, or spy hunting. But the M.I. (Ministry of Information) carries on a campaign against careless talk, with posters, films, etc., that would make forest fire preventionists green with envy. And the police have every foreigner 'taped' and watched. At first I got the full effeets, firmly but politely. What helped most in my case was, not being here nine years, but being a forester. Luckily we had as a friend and near neighbor a retired Indian forester who had been head of the Forest Service in India, a very able man, still vigorous and keen on forestry. He took up the matter with the Chief Constable, and so got back some privileges which I hadn't realized the value of until I had lost them.

"It is no secret that this country lived in hourly expectation of a German invasion from the time of the French collapse until very recently. Even now it may come. But there was never, that I could see or hear of, the slightest sign of fear. There was complete confidence that the attempt would be beaten off. \* \* \*

"The censor can't mind, either, my mentioning the Home Guard, because Hitler paid us the compliment of trying to frighten us by saying that we would be considered 'franc tireurs' and shot on the spot. Nobody took that very seriously.

"It is a pretty useful force, the Home Guard, with a considerable number of veterans from the last war. I felt honored to be allowed to enroll in it and to be issued a uniform, a rifle and cartridges, and assigned a place in a trench. It is well known, of course, that every village in the country has defense works, both as protection against parachutists and troops landed by plane, and to check the rapid advance of light units, which the Germans used so effectively in Poland and France. \* \* \*

"The censor won't let me say much about the recent bombings, as places can't be mentioned. But I can tell you, without revealing military secrets, that German planes wander over here pretty often, a good many of them probably with very vague ideas of where they are or where to drop their bombs. The fact that there are no military objectives here is no safeguard. They are obviously trying to wear down the civilian morale, but have had no success yet. \* \* \*

"The German claims are ludicrous. Don't believe them, and listen in to the New British broadcasts for real news when you can."

#### **Natural Beauty in Florida**

(Continued from page 549)

of the most convenient to reach is Royal Palm Hammock. Go south of Miami to Florida City and turn right. Your road will pass through the tomato and avocado country. and then through miles of pineland where slim, straight trunks surround you on all sides. Eventually the sandy road takes out across the Everglades, a vast swamp grown thick with sawgrass blowing in the wind like the waves of the sea. The expanse is broken here and there by hammocks, or islands, of dense vegetation, and it is to one of these that the road leads; but before reaching it a flock of herons and other aquatic birdlife rises at your approach. You will see the large yellowbilled American egrets in white plumage, Louisiana herons, Ward's herons, and many little blue herons with their young in white. Nearby is a pool filled with pond lilies and cattails and surrounded with shrubbery. Swimming on the water you will see pied-billed grebes, coot, Florida gallinules with bright red bills and white tail feathers, purple gallinules with bills of yellow and red, their heads, necks, and breasts of iridescent purple, and beyond them an American bittern standing nearly invisible, his feathers blending with the cattails. In the shrubs are numerous

white ibises with pink, sickle-shaped bills, and water turkeys whose feathers shine in the sun. The air is filled with incessant calls.

Continuing, you reach the hammock. Here the vegetation is different from any previously seen because this, the tip of the Florida peninsula, lies within the tropic zone - the only place this zone occurs in continental United States. In the dim light of the humid forest you will see what is undoubtedly the strangest tree in North America. It is the strangling fig. When the seed of this tree lodges in a crevice of bark of another tree it sends branches up and roots down gradually enveloping and strangling to death the tree which supports it in its early life. The fig has thin, rather smooth light gray bark, and can grow to tremendous proportions, towering over the surrounding jungle, and looking like a mass of sinews.

Here, too, is the gumbo limbo, another forest giant. This one has shiny, copper-colored bark, and roots that resemble pythons writhing along the ground.

In this and several of the nearby hammocks are a few royal palms. Once there were many more, but fire has destroyed them. So tall are they that their heads are thrust high over the hammock where Do'Y

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their great fronds toss in the warm south wind. These stately giants of the palm kingdom are native to this one small area in all the United States, though they are common in Cuba and other tropic isles.

In the hammock, too, are countless hundreds of air plants of all kinds. The forest is fairly filled with them clinging to tree trunks and branches and even to swinging vines, while on the ground you will find an endless variety of vegetative forms among which are ferns with fronds ranging up to twenty feet in length.

A strange and beautiful land this, to one who wanders here for the first timea land filled with fascination and interest. The person who comes away with an impression of monotony has failed to step outside the artificial world of man.

#### Black Spruce

(Continued from page 543)

able to bring new growth to dormant trees after they have been cut.

The paint business is not the only one benefited by the Christmas tree industry; there is a thriving trade in pressed-iron stands. One Minnesota firm buys a minimum of 300,000, keeping one good sized metal firm busy for almost six months out of the year.

Alarmed by the heavy demands made on black spruce for the Christmas tree season, a group of Minnesota conservationists asked the state forestry division to conduct an investigation. The forestry division took the group up to Koochiching county on the Canadian border and showed it that more good than harm was resulting. The stands of trees were so thickly clustered that trees were robbing one another of much needed sun and air. Christmas tree cutting was essentially good forestry, for it thinned the spruce out and gave the remainder room to grow. More than this, the survey showed the tremendously important fact that even if the area was cut at the rate of two and a half million trees a year, Minnesota with care could supply the rest of the nation with Christmas trees indefinitely.

#### Chukars in Mojave

(Continuing from page 545)

Too, there was slight danger from poachers. People living in the vicinity think of the birds as the deputy's pets.

There was a great emptiness in the deputy's heart when he returned to his home. And this persisted until one morning when he discovered in his chicken yard none other than Colonel Robert. The mountain quail had flown the fifteen miles of desert to roost in its old haunts. But there was no Mary! The deputy immediately set out for Ord Valley, and for many hours searched and whistled. But to no avail. His calls brought nothing but their echo. With heavy heart he returned to his aviaries, realizing that the Colonel's mate had been a victim of a predator—perhaps a coyote.

And the Colonel could not be entired to take another mate. Instead, he became the dictator of the bantam chicks which sprung from the step-mother of



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#### WHO'S WHO

Among the Authors in This Issue

JULIETTA K. ARTHUR (Trees Return to the Holy Land) was reared on the Oklahoma plains, where water was scarce and there were few trees, and this was the genesis of her understanding interest in the planting project in Palestine, of which she writes.



Roy L. Williams

ROY L. WILLIAMS (Evolution of the Tie-Hack), now Supervisor of the Washakie National Forest, was born in a sawmill camp in what is now the Harney National Forest. His familiarity with early aspects of lumbering roots from boyhood, when he

knew, loved and worked in the woods and around sawmills. Training for forestry here and in France, he entered the Forest Service in 1922.

ALDO LEOPOLD (Escudilla)—a leading forester and wildlife expert attached to the faculty of the University of Wisconsin, is too well known to our readers to need further introduction. He tells here the intimate story of a great mountain and a great bear.

RORY O'SHANE (Black Spruce Rides the Yuletide), Minnesota born, is studying law at the University and free-lancing on the side. His current contribution was the result of a summer spent in the peat bogs and woods of Minnesota.

CHARLES BARTON and WELDON D. Woodson (The Mystery of Chukars in the Mojave) both hail from the West. Dr. Barton-now health officer of Los Angeles, has had an interesting career both in the Army and private practice here and abroad. Mr. Woodson, a native Texan, got the "Frontier West" in his bones when, as a youngster, he migrated with his family to California. For the last six years he has free-lanced in the natural and frontier history fields.

HERBERT R. Cox (The Business of Growing Christmas Trees), extension agronomist out of Rutgers University in New Jersey, speaks with authority, for his avocation is growing Christmas trees. His plantation in the Jersey hills, forty miles from New Brunswick, consists of about 70,000 trees of nearly all the species of spruce and fir suitable to be used as Christmas trees.

J. J. LEVISON (Trees Have Character), forester and author, is one of the most noted arboriculturists in the United States. A Yale man, he served under Pinchot in the Forest Service, then became chief forester in charge of parks in Brooklyn and New York and, after ten years, entered consultant work as an arborist. Mr. Levison is a Senior Fellow of the Society of American Foresters.

THE COVER-"Christmas Morning in Yosemite." Photograph by Ralph H. Anderson, National Park Service.

would herd them from the pens to search for food; at ten o'clock he would drive them back, for reasons of his own. This was repeated in the afternoon, after which he would hop to a roost a foot or more from a bantam called Nellie.

It was only recently that the deputy discovered this distance had been reduced to about six inches. Perhaps the Colonel might now look differently upon a new mate. The deputy isn't sure. is wondering if he really wants the Colonel's kind multiplying to the proportions of the Ord Valley quails and chukar partridges.

#### Trees in Holy Land

(Continued from page 538)

there may be on the slope that the heaviest winter rains cannot wash it away. Now the Forestry Department of the Jewish National Fund is experimenting with trees whose timber may be employed for citrus cases and for the platting of receptacles for fruit and vegetables. These varieties grow mostly in the valleys and require artificial irrigation in the summer. To avoid expense they are usually planted on the banks of streams and in soil unsuitable for intensive agriculture.

The Jerusalem pine, which represents eighty out of every hundred trees planted, is peculiarly suited to the difficult conditions under which trees must grow in the parched land of Palestine. But gradually other varieties are creeping in; the carob, for example, indigenous, as is the pine, does not age readily, withstands fire well, and in addition yields a fruit valuable as a food for milk cows, working animals, and the ever prevalent goat. After extensive experiments at the agricultural station at Rehovoth, 40,000 carobs were planted in the last seven years, and from now on the number will increase.

But whether it be olive, which has been native to the Mediterranean area for thousands of years, or the bright red pomegranate, or the castor tree with its spiny fruit, the luxuriantly flourishing oleander which blossoms all the year round, the evpress with its apex rising into the blue of the sky, or the self-sufficient Aleppo pine, in Palestine, perhaps more than anywhere else, the tree is a symbol of life. It is trees which are held in reverence by the Jewish pioneers who express their passionate re-dedication to the soil of their fathers in this planting song as they go to their work in the fields:

"Now we come into our land

There we plant!

We shall plant; On hill, in vale, at ocean strand, Spreading forests greening stand; We shall plant; In ancient times, at birth of child, They did plant; Cypress dark and cedar wild. Carobs broad and olives mild They did plant. Our nation now is born anew, So we plant. On wastes of sand which deserts blew. In deadly swamps of sombre hue,

#### the chukar partridges. Each morning he THE AMERICAN FORESTRY ASSOCIATION

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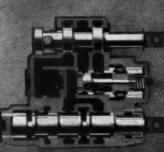
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